A Recapitulation Lecture

Delivered at the Medical Graduates' College and Polyclinic on Thursday, Dec. 17th, 1908,

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[THE following remarks are a transcript from memory of a lecture which I gave at the last clinical demonstration at the Polyclinic for the year 1908. I may explain that the demonstrations here reviewed take place every week. The cases which are brought forward are not classified but quite miscellaneous and the remarks made are extempore. I have taken the liberty of curtailing much of what I said and of amplifying where it has seemed desirable.—J. H.]

A CASE OF ACROMEGALY.

A case of the utmost interest from the pathological standpoint was an example of acromegaly which was brought to us by Mr. E. Dennis Vinrace. In this instance we were able to complete our observations by a necropsy. The patient was an Italian woman nearly 70 years of age, tall and gaunt, whose prominent chin and nose attracted the notice of all as she walked into the room. Her hands and feet were very large and the diagnosis was self-evident. As to history, we did not get further than the fact that the symptoms had been present for many years. She was almost blind from dense cataracts and was also very deaf. A few months after her visit to us the poor woman died rather suddenly with chest symptoms, and through the zeal of Mr. Vinrace a necropsy was obtained which he and I conducted together at a public mortuary. We removed the sphenoid with the sella Turcica and its contents. A tumour of considerable size and firm structure took the place of the pituitary body. It might possibly be of endotheliomatous origin and it had evidently been of very slow growth. I will not trouble you with further details but simply ask attention to the fact that the case confirms the opinion (Marie) that there is a connexion between acromegaly and destructive changes in the pituitary body.

SUDORIPAROUS CYSTS WITH XANTHELASMIC PIGMENTATION.

Mr. Vinrace's patient supplied other facts of scarcely less interest. She was of extremely dark complexion and around her orbits the skin showed xanthelasma crescents—almost circles—which were nearly black with pigment. There were no conspicuous chamois leather patches, but at a little distance below the inner canthus on each side were groups of small nodules as big and almost as hard as small shot. These I had diagnosed during life as the sudoriparous form of xanthoma, and at the necropsy we did not neglect to remove them for examination. They proved to be, as we expected, little tense cysts which contained a clear, slightly yellow fluid. Captain A. E. H. Pinch, I.M.S., was good enough to examine them for us, as also sections of the pigmented skin, but I will not reproduce his notes at present. There was a history of bilious disturbance in early life, and a sister of the patient who had suffered from jaundice, &c., had had her gall-bladder removed. In our patient the liver symptoms had long ago ceased, and we found nothing worthy of special notice in the liver or in the gall-bladder.

XANTHELASMIC PIGMENTATION.

Whilst on the subject of xanthelasmic pigmentation I may just mention that I have during the last fortnight seen two patients, both women, in whom circles surrounded the orbits as black as if they had been touched with burnt cork for a play. In both the xanthelasmic crescent was the blackest part and that in which the condition had been first observed, but the change was not confined to it but passed quite round both eyelids.

XANTHOMA GLYCOSURICUM.

We have recently had, as you know, in the Clinical Museum a special exhibition of drawings illustrating xanthoma and xanthelasma and the other varieties of jaundice. This has naturally led to our devoting considerable attention to this group of maladies and we have made some efforts to trace the subsequent history of patients of whom we have preserved portraits. I may mention that through the kindness of Dr. C. Williams of Barrow-in-Furness I have been able to bring up to date the history of the patient whose portrait is published in the New Sydenham Society's Atlas and also in my own Archives. This man afforded a magnificent example of the acute eruptive form of xanthoma which is met with most frequently in the subjects of glycosuria—the xanthoma glycosuricum of authors (borrowing Dr. Payne's nomenclature). Now our patient never had sugar in his urine but he was liable to most violent attacks of liver disturbance attended with prostration and vomiting. His xanthoma eruption lasted for months, nearly a year before it finally disappeared, as has been observed in other cases. It is now 14 years since the portrait was taken. He is still living and in good health, residing in the United States. He has had no further indications of organic liver disease and complains only that "little white pearly spots," which were left after the eruption faded, are sometimes irritable.

In two other very marked examples of glycosuric xanthoma of which we have portraits I have ascertained by correspondence that the patients have since their recovery remained well. In all cases the treatment recommended was careful dieting and taraxacum in large doses with mercury in small ones.

XANTHELASMIC MILIUM.

Many years ago Dr. J. Corbet Fletcher brought before us a young girl who had in the xanthelasmic position on the left side a curious group of small white spots. They were of the nature of milium but xanthelasmic in position and grouping. We had a photograph taken and coloured to nature. At the time I thought my portrait unique, but I subsequently discovered in Crocker's splendid atlas an illustration of exactly the same thing, and curiously enough whilst our exhibition was on show a third was added from the just published Iconographia of Jacobi. All three portraits are alike and when placed, as they were in our collection, side by side they make it very obvious that they are the result of a definite pathological tendency and not in any way of chance. They are allied to certain other cases of which both Dr. H. Radcliffe Crocker and myself have published illustrations in which small comedones are grouped in similar arrangement and in the same positions. I cannot doubt these groups, whether of the milium or comedo type, belong really to the xanthelasma family. The portrait of Dr. Fletcher's patient was published in the New Sydenham Society's Atlas (Fascic. XVI., Plate 103). By the kind coöperation of Dr. Fletcher we had the girl again before us a few months ago and confronted the portrait with the original after the lapse of seven years. The child of ten had grown into a fairly well developed adolescent girl. She had lost for the most part the headaches from which she used formerly to suffer and she had also lost the group of milium spots on her eyelid. We could with difficulty find the part where the group had been. It was marked only by a slightly granulated appearance of the skin and we certainly should not have found it without the guidance of the portrait.

LEPROSY.

Of leprosy I have been able from time to time to bring before you some very interesting examples. We have what may be called stock cases in which the patients have been under observation for a long series of years. In one of these the patient remains well, but with anæsthetic hands, more than ten years since the disappearance of all active symptoms. In another, a young lad whom we have photographed at various times, recovery under treatment by chaulmoogra oil had appeared to be complete, when after leaving off the oil for six months a relapse unexpectedly occurred. His was an instance of recovery from the tuberous form, an event which is said to be very unusual. You saw this lad a month ago. He is now a well-grown young man and is engaged in a City office. He is pale and of a pasty complexion but no traces of the tuberous swellings which formerly covered his face now remain. The relapse of which I spoke, from which he is now suffering, has taken the form of a patchy dermatitis symmetrically placed on the outer sides of both thighs and the backs of both arms. It is already fading under the resumed use of the oil. In all other respects he regards himself as quite well. I had previously thought that cases in which the symptoms had once well passed away seldom

or never relapsed, but this case proves that we must not rejoice too soon. In another instance in which, six months ago, I brought before you a young woman who was in a worse condition than when we had first seen her two or three years previously there was an explanation of the relapse. She had never been well advanced in recovery, although very greatly improved, and she had returned to South Africa and had resumed the use of salt fish of which she was fond. It was there that her malady became much worse and obliged her to return to England to escape the risk of compulsory isolation. She had been so much improved at one time that she had married, and now she is again the subject of a most disfiguring tuberous outbreak on the face.

We have had no instance of origin of the disease in Britain, nor indeed in any country not known to be a leprosy locality. All our cases, with one exception, have been patients of my own who came here only for demonstration. The exception was a woman who appeared, without warning or suggestion of diagnosis, on one of our consultation afternoons. There was nothing suspicious in her aspect and at first I thought that we were dealing with a tuberous erythema of no great importance. She had lumpy, ill-margined indurations on the skin of her forearms. The conditions of some of them having aroused my suspicion I inquired further and found that there was definite loss of sensation in some regions and at once the nature of the case, which had become very puzzling, was made clear. The woman had resided near Odessa in a fishing district on the shores of the Black Sea. Now on the shores of this sea, especially near the mouths of rivers, leprosy is common. It does not, as a rule, go far inland in Russia, for there is nothing in the rule of the Greek Church to stimulate the importation of salt fish, but wherever there is an inland sea or large lake there it is found.

I have to congratulate those who honour me by their attendance at my demonstrations as also myself that although we have not shunned contact with our leprosy patients, none of us have contracted their disease. I may strengthen my inferential argument against its contagiousness by adding that although my patients have been residing in London in boarding-houses or with their friends and not observing any special precautions, no suspicion of contagion to anyone has, so far as I know, ever occurred.

THE EARLY DIAGNOSIS OF CANCER.

Our polyclinic organisation has had from its beginning a double aim. One, and perhaps the chief, has been to afford to suitable cases a ready and prompt access to skilled advice. We have given no drugs and performed no operations, but we have been ready to advise as to what was needed and to make suggestions as to where treatment could best be obtained. To protect ourselves and others against abuse we have always required either the attendance of the patient's medical attendant or a letter from him and have always communicated the opinion given to him rather than to the patient. Only where as in cases of cancer, or others urgently needing operation, have we thought it right to explain to the patient what was requisite. This has been done in order to prevent delay and also to strengthen the hands of those under whom the patient would subsequently come. Our plan has, I believe, well worked without offence to any and with, I am sure, a very great advantage to many. It is in cases of cancer that our chief triumphs have occurred. In case after case the patient has been told kindly but firmly that the malady necessitated an immediate operation and that there must be no loss of time. I cannot adduce a better example of this than that of a man who came before us a fortnight ago. This man, an "old juvenile" of 71, came with the suggestion of "primary chancre" and brought with him a record giving the exact dates of the last intercourse which he had been induced to confess to, and of the first appearance of his sore. He had enlarged and hard glands in both groins. The supposed chancre was in the furrow and involved the opposed surfaces of both the prepuce and corona. It was indurated and it looked like a chancre but it was a cancer. I pointed out at the time the features upon which the differential diagnosis was based and I need not now repeat what was then said. There could be no doubt about it and the patient was recommended to a general hospital for immediate amputation of the penis and excision of the glands. (Mr. Burgess has preserved for us a portrait.)

TUMOURS OF THE FEMALE BREAST.

Of tumours of the female breast we have had many examples, both innocent and malignant. Amongst the latter was one remarkable example of the nipple cancer or eczema cancer, so well described by the late Sir James Paget.

THE COMMON PRURIGINOUS ERUPTIONS OF CHILDHOOD.

The common pruriginous eruptions of childhood known as lichen urticatus, prurigo urticans, &c., have been repeatedly brought before us and one example of the more rare affection designated urticaria pigmentosa. My opinions as to the real nature of these maladies, that they are local and not either constitutional or dietetic, are, I believe, well known to you. The last-named I regard as simply the stigmata left by bug-bites, in those of peculiar predisposition, and the others as being almost invariably due either to bugs, lice, or fleas. I am well aware that this teaching has not found acceptance with our leading dermatologists and can only for the present assert that I have displayed and discussed the evidence fairly. We have had a special exhibition of portraits devoted to the subject and much has been written in the New Sydenham Society's Atlas respecting it. They are all of them diseases which occur chiefly in large towns and amongst that part of the population least well-cared for. Just as the consulting surgeon with extreme rarity sees a case of chimney sweeps' cancer in private practice, so my dermatological friends acknowledge that urticaria pigmentosa, although a long-lasting malady, brings them no fees.

ALOPECIA AREATA.

The real nature of alopecia areata and its relationship to ringworm is still a matter of debate amongst specialists. My own opinion has long been formulated, that the one is usually a sequel of the other, and under certain circumstances a direct result of contagion from a child to an adult. My evidence has been mainly from clinical observation, but in this field it has had innumerable confirmations. We must not wait too long for the confirmation afforded by the microscope before we yield our credence. Such confirmation is invaluable when it supports the inferences of the clinical observer, for it secures acceptance by a certain class of mind otherwise impenetrable, but when it records only a negative verdict it may safely be neglected. I have had many opportunities for submitting to your consideration very important facts bearing upon the creed as to alopecia which I have mentioned. Only the other day a woman attended with huge areas of alopecia on her scalp of about a year's duration. It had begun, as is very common, on the occiput and I remarked that the explanation of the frequent commencement on this part was that it was contracted by resting the back of the head on a chair which a ringworm patient had just left. The woman then told us that her eldest child had for years suffered from an eruption on the back of her head which had been, it was believed, caught at school where others had it.

CLASSIFIED EXHIBITIONS.

As you are aware, we have during the last six months introduced into the Clinical Museum the plan of displaying temporarily the contents of our portfolios in special groups. If you will pardon some appearance of boastfulness I will venture to record my conviction that this plan will prove of very great use as an aid to clinical teaching and for the development of clinical knowledge. It is really astonishing how many valuable suggestions present themselves almost spontaneously when the observer has before him a series of portraits gathered from all sources and illustrating some malady more or less rare and exceptional. If in the old Hebrew days the much study of many books was a weariness to the flesh, what has it become since the era of the printing press and in the times in which we live? Our atlases of disease are cumbrous and expensive and but few of us have access to many of them. It is well-nigh impossible to refer profitably to more than one or two at a time. Take them to pieces, however, rearrange their contents, and display the plates side by side on screens in classified juxtaposition and they afford evidence of a kind which he who runs may read. This is what we have done, or, at any rate, attempted to do. We have exhibited in one series 30 or 40 illustrations of the stigmata left by the pricks or stings of insects. In another series we displayed as many in illustration of xanthelasma and xanthoma, and we have at present on our walls between 400 and 500 bearing

upon the multiform aspects of syphilis. This last collection has to myself proved most instructive. I must not attempt even in the briefest outline to sketch its chief features, but I may perhaps venture to refer to a few of the subjects which have offered most of novelty.

It has been made quite evident that there is no type of primary sore to which authors are agreed to apply the term of "soft chancre or ulcus molle," and that absence of definite induration is its only accepted feature.

We have shown that many chancroids and multiple sores are really herpetic.

The term "syphilis maligna" has been applied simply to rupial or pemphigoid syphilis. From this observation we may proceed to the inference that it is those having by idiosyncrasy a predisposition to pemphigus who display syphilis in its malignant form, and, taking another step, that the remedy which is a specific for pemphigus should be used in these cases. This inference is supported by the evidence afforded by one of the portraits in which severe pemphigus occurring in the course of secondary syphilis proved to be curable not by mercury but by arsenic.

This topic receives special illustration in the screen devoted to "Syphilitic pemphigus of the newly born." This screen displays nine portraits from various sources, chiefly continental. It is a rare form and has probably never come under the observation of well experienced practitioners. In spite of its rarity it is, however, of peculiar interest, since it offers pathological problems not easy of solution. It is the one form of infantile syphilis which occurs promptly after birth, not waiting, as is more usual, for the three or four weeks which usually elapse before symptoms appear. It is the only form of eruption which may actually be present at birth, although with extreme rarity, and when dead births occur with marks of syphilis it is usually epidermic peeling and bullæ. Its preference for the palms and soles is well known and has indeed been so generally recognised that some authors have described it as occurring only in these regions. It has been thought that it is almost invariably fatal. Our collection of portraits confirms some of these accepted conclusions and refutes others. All our nine portraits represent the infant holding up its palms and soles for inspection and these are always covered with bullæ, but in most the eruption extends along the arm and leg, and in some it covers the whole thigh, and in one or two the whole body. That it is most severe on the distal parts of the extremities is obvious in all, and in one the very remarkable feature is displayed that whilst all four extremities from shoulder and from haunch are covered with bullæ the surface of the trunk is absolutely free.

I must not trouble you with details but beg you to go and carefully study the screen on which this group of portraits is displayed. I shall be astonished if you do not recognise a novel and very important observation.

FRACTURES OF THE OLECRANON AND THE VALUE OF THEIR TREATMENT BY DIRECT AND INTERNAL SPLINTAGE.[1]

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IN former communications[2] reference has been made to the usual treatment of fractures by means of splints placed along the outside of the limb and separated from the fragments they hold in position by the skin, fat, muscle, &c. This is the method which has been practised for years and has yielded, on the whole, excellent enough practical results. But there are some situations where its application is unsatisfactory. And on these occasions operative surgery has come to its aid and applied internal splints directly to the bones. This is the modern treatment of fractures by *internal and direct splintage*, as contrasted with the older method of treatment by *external and indirect* splintage.

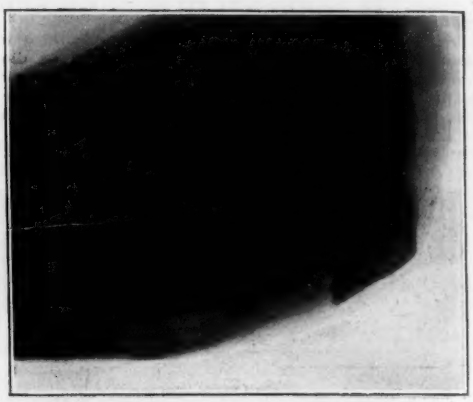
[1] An address delivered at the Medical Graduates' College and Polyclinic.

[2] St. Thomas's Hospital Gazette, March, 1908, p. 47; International Clinics, 1908; The Practitioner, 1908.

I now intend to discuss the principles and practice of direct internal splintage as applied to fractures of the olecranon. Fractures of the olecranon form one of the subjects about which we have at present most knowledge of this modern method. In consequence it affords ample and excellent material to demonstrate the uses, principles, and limitations of internal splintage. With regard to fractures in the neighbourhood of the elbow-joint, direct splintage has been practised most often in connexion with fractures of the olecranon which must now occupy our consideration. It is a very useful aid to our memory and intelligent understanding of the treatment of a fracture if the causation, signs, and treatment are made to follow along similar lines. Thus I would divide fractures of the olecranon into two classes etiologically—those due to direct and those due to indirect violence.

These fractures are not uncommonly overlooked, being hidden by the swelling of the soft parts which accompanies the injury. The accident is either a fall or a blow on the olecranon. The subsequent pain and bruising need not be great and the loss, or even only diminution, of power need be only temporary. In consequence of the lack of severe symptoms it is not thought possible that so severe an injury as a fracture can have been sustained. But the patient instead of recovering quickly is often so slow in regaining power in his arm that he is regarded somewhat in the light of a malingerer. With regard to physical signs there is little. And that little is easily overlooked. Indeed, there may be only a line of tenderness running transversely across the olecranon; there may be a very small gap between the fragments, and perhaps it may be possible to get some slight tilting of the upper fragment such as was present if the beak of the upper fragment was pressed upon in the patient whose skiagraph is shown. Thus it will be seen that the clinical history of a case should be sufficient to indicate the importance of having a skiagraph taken (Fig. 1). In fact, the skiagraph is often

FIG. 1.



Skiagraph of a man's arm taken some weeks after the injury, revealing the presence of a fracture. The interest of the case is that the man could use his arm and do light work in spite of the presence of a fracture.

the only positive evidence of the fracture. These cases are not very uncommon and are characterised by being caused by direct violence, having little signs and symptoms, and not much separation between the fragments; the obliquity of the line of fracture is always downwards and backwards; it is about the level of the head of the radius and intra-articular. It is best treated by a sling and massage; later by passive movements in addition. Usually neither direct nor indirect splintage is required as an excellent result is easily obtained.

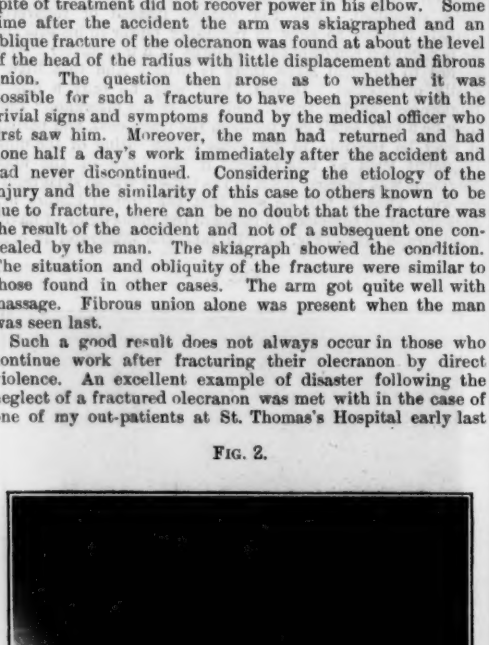
The skiagraph (Fig. 1) is from a case of a man who had recently consulted Dr. M. Emin, having fallen on the tip of his elbow some weeks previously. The elbow had been painful and was swollen but the man was able to do work which did not demand much physical power in the arm. A careful examination revealed a tender and constant place over the back of the olecranon at the level of the elbow-joint. And just above this place pressure had a slight

tilting movement (Fig. 1) which could very easily have been overlooked. A skiagraph was taken and it revealed a transverse fracture of the olecranon. With massage and movements, power and free exercise of the elbow returned to all its former vigour and extent. But union took place by means of fibrous tissue and not by bone. In another case a skiagraph was taken from the arm of a man who had fractured his olecranon by direct violence some days previously. He received a violent blow on the elbow which was followed by pain and bruising and some disability of the arm. Beyond the presence of a constant painful spot over the tip of the olecranon an examination revealed nothing. A skiagraph was taken and showed that there was an extra-articular fracture with a small fragment broken off the tip of the olecranon. The case was treated by means of a sling and massage, the arm recovering perfectly with fibrous union between the fragments.

A most interesting case was sent to me by Dr. H. E Hewitt, assistant medical officer at the General Post Office. A man who had been taken on to assist temporarily in the heavy duty of sorting the Christmas mails had slipped and had fallen on his elbow whilst at work. He was seen by the medical officer who treated him for a bruised elbow, but in spite of treatment did not recover power in his elbow. Some time after the accident the arm was skiagraphed and an oblique fracture of the olecranon was found at about the level of the head of the radius with little displacement and fibrous union. The question then arose as to whether it was possible for such a fracture to have been present with the trivial signs and symptoms found by the medical officer who first saw him. Moreover, the man had returned and had done half a day's work immediately after the accident and had never discontinued. Considering the etiology of the injury and the similarity of this case to others known to be due to fracture, there can be no doubt that the fracture was the result of the accident and not of a subsequent one concealed by the man. The skiagraph showed the condition. The situation and obliquity of the fracture were similar to those found in other cases. The arm got quite well with massage. Fibrous union alone was present when the man was seen last.

Such a good result does not always occur in those who continue work after fracturing their olecranon by direct violence. An excellent example of disaster following the neglect of a fractured olecranon was met with in the case of one of my out-patients at St. Thomas's Hospital early last

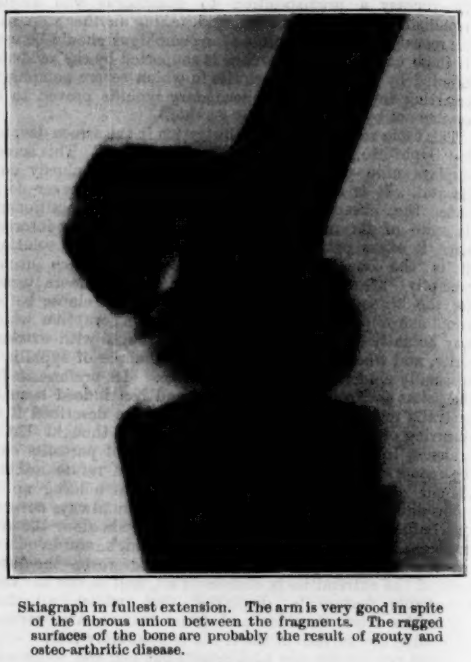
FIG. 2.



Skiagraph of a man's arm. In spite of the fracture of the olecranon he had continued work but sought advice when he had opened the elbow-joint by tearing the skin between the fragments.

year. He was a young general labourer aged 23 years, who fell 15 feet out of a window on to his elbow. His hand was not hurt at all so that there can be no doubt that the violence of his fall was applied to the elbow as he said, and that the fracture of his olecranon resulted from direct violence. As he could use his arm he thought that he had merely bruised his elbow and he continued his work without ever giving it up. No medical man was consulted previously to his coming to the hospital, three months after the accident, when it was found that there was a septic sinus passing through a wide gap between the fragments into the joint, pus and synovial fluid issuing from it. The sinus had been present for a week and had resulted, as he said, from the skin becoming tight and then giving way during some unusually laborious work which he was doing. It is easy to construct the plan of the chapter of accidents which began with the fracture of the olecranon. The fracture was caused by direct violence, so that there would be little separation of the fragments from each other, as in the skiagraph (Fig. 2), accompanied by

FIG. 3A.



Skiagraph in fullest extension. The arm is very good in spite of the fibrous union between the fragments. The ragged surfaces of the bone are probably the result of gouty and osteo-arthritic disease.

FIG. 3B.

Elbow-joint in flexion. Same case as 3A.

little laceration of the fibro-tendinous lateral expansions either side of the olecranon. In consequence of these expansions not being torn, or much torn, the man was able

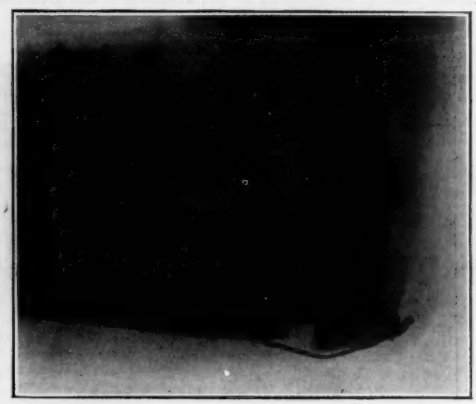
to continue his work, thinking that he had merely bruised his elbow. By doing hard work the triceps muscle gradually pulled the separated olecranon more and more from the shaft of the ulna, tearing and stretching the lateral expansions. At the same time the skin over the site of the fracture became adherent to the fragments and torn lateral expansions, becoming stretched more and more as the fragments became further separated from each other, until it became torn whilst making an unusual effort, opening the elbow-joint.

This case shows the importance of three things: (1) Making a correct diagnosis at the beginning and not overlooking fractures of the olecranon; (2) watching their progress; and (3) if necessary uniting the fragments by suture to preserve their mobility and to prevent their separation.

The next case which is reported occurred in a medical man and we have the great advantage of having his expert evidence before us. He fractured his olecranon whilst hunting on Nov. 8th, 1903. It was treated with a straight splint and massage, with the result that after two months there was no power of extension, the separated olecranon having become adherent to the back of the humerus. There was a big gap between the fragments. As the arm bade fair to be useless, operation was advised and accepted. On Feb. 23rd, 1904, the olecranon was freed from the humerus and was wired to the shaft of the ulna. The patient had a lot of pain after the operation, far more than is generally experienced. At the same time he felt extraordinarily ill; so that in spite of the fact that there was no rise in temperature the elbow was inspected on the 25th. It was a most alarming sight; shiny, swollen, a deep dull red, with the greenish-yellow hues of small superficial hæmorrhages, like a Turneresque sunset. Fortunately, similar red places were found on the small joints of the hands and feet, particularly on both big toe-joints. It was gout and it cleared up with the ordinary remedies. The patient had been a teetotaler for a year and he felt very hurt at receiving such a reward for a year's virtue. It is the only case of gout in a wired bone which I have seen or heard of! On March 15th, whilst sneezing and stretching, he broke the wire and partially broke the young union between the fragments. On the 28th the broken wire was removed and the fragments were again approximated with a strong "gynæcological" silk. Union again took place by first intention. It will be best to quote the result, four years after the operation, in the patient's own words: "I have a very useful arm; no bony union and a big gap between the olecranon and the shaft of the ulna. I have complete movement except that I cannot quite straighten the arm. I have considerable power in the triceps but could not strike a blow as in boxing. There is a good deal of grating in the joint on flexion and extension but no pain at all, except sometimes after holding a pulling horse for an hour or two, or after carrying a heavy weight." The skiagraphs of the elbow in flexion and extension (Fig. 3, A and B) were taken four years after the operation and they show the condition of affairs. There can be no trace of doubt that the use and value of the wire and silk in this case was to allow passive and active movements, thus preventing the olecranon from becoming adherent to the humerus as it was before the operation. By these means power and movement were regained and retained in spite of the absence of bony union and the fact that the silk had evidently cut its way into the bones, allowing the union to stretch.

The next case which will be brought to notice is that of another medical man who was thrown out of his motor-car in an accident. He fractured his olecranon in the manner shown in the illustration (Fig. 4) and at the same time dislocated both the radius and ulna forward. Operation was undertaken four or five hours after the accident, an internal splint was applied directly to the bone, being preferred to external and indirect splintage for two reasons: first, owing to the olecranon being fractured there was nothing to maintain the dislocated forearm bones in position when their displacement had been reduced; secondly, on account of the injury to the elbow-joint caused by the dislocation it was necessary to begin movements early in the convalescence to prevent the joint becoming stiff. The olecranon was united to the shaft of the ulna by a strong silver wire. The fragments were brought into excellent apposition. With regard to the result of the operation it is impossible to do better than to quote the patient's own words: "With regard to the arm itself, it is exactly the same strength as before. [Here it may be mentioned that the patient had been a heavy-weight amateur champion boxer.] The movement (full flexion at the elbow), which you said a similar case could not do, I can do perfectly. The arm does not go absolutely straight, which may easily be due to my laziness, as I did absolutely no 'exercise or movements' whatever during my convalescence as far as getting the arm straight was concerned. I did too many movements in other directions, writing letters freely on the third day after operation and dispensing medicines (holding fairly heavy bottles) on the seventh day. All this with no splint! I actually took out a tooth, opened a tough abscess with a blunt knife, and did a vaccination on the seventh day, using my right, the broken, arm." This is a most gratifying record and it will be very well worth the time expended to examine a skiagraph of the joint taken two to three years after the accident. First, it will be noted that the fragments have separated from each

FIG. 4.



Skiagraph taken of a forearm some time after wiring. The arm is an excellent one. Note the fibrous union, the separation of the fragments, and the slack wire.

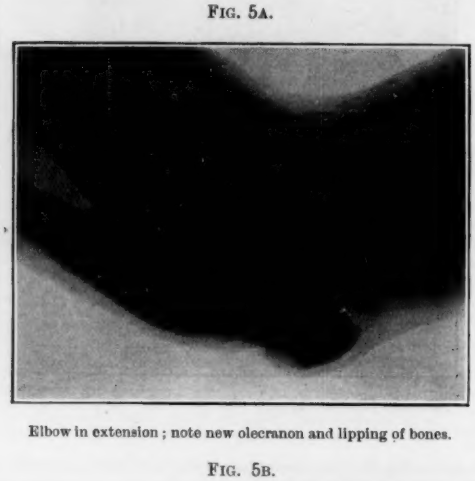
other owing to some stretching of the wire and absorption of the bone pressed upon by it. Secondly, there is no bony but only fibrous union. Thirdly, the wire, which was originally tight with the fragments in close apposition, is now loose. Finally, and what cannot be seen, is that the olecranon is freely moveable on the humerus.

Observations on the use of internal splints shows that they always become loose and often allow the fragments to come apart from each other, as has been illustrated plentifully. To realise the importance of this it is needful to direct attention to the method by means of which tissues deal with foreign bodies. The soft tissues, such as connective tissues, which surround an aseptic foreign body, undergo reparative inflammatory changes and end by encapsulating it with fibrous tissue. Bone will attempt to encapsulate an aseptic wire or screw in a similar way. But the earliest change of inflammation in bone is a rarefying osteitis, when the hard constituents of the bone are removed, leaving only the soft matrix. Thus the wire or screw becomes surrounded by soft tissue and is loose, when the internal splint must cease to be accurate, allowing the fragments it joins together to come apart. Thus in places subject to much strain and movement, as the olecranon or the patella, internal splints are only likely to produce fibrous union. The loosening of these splints is the inevitable result of changes they produce in the tissues. So that internal splints cannot be relied upon for absolute anatomical accuracy for more than a short period, say two or three weeks. This inaccuracy is much exaggerated should the part be moved, such as is done after "wiring" the olecranon or the patella. But if the part is completely at rest, as for example the femur or tibia, the loosening of the internal splint is usually followed by the ossification of its fibrous capsule and its re-tightening—that is to say, first-intention union.

The next case is a most remarkable one. Fortunately the sufferer from the accident was a medical man so that we have

the advantage of his expert evidence. Moreover, he was right-handed and the injury was to the right arm. Since the injury he has done many years of work as a surgeon to one of the London hospitals. "The accident happened at the end of the hunting season, 1877 or 1878, and was caused by direct violence. I was leading over a grass field, but, owing to recent heavy rains, the centre of the field was quite soft and marshy, in part like a bog; this I did not know but rode on as it all looked like grass. When my horse got into the soft place we both floundered over. I fell on my back and of course did not hurt myself in the fall, but my horse, a nearly thoroughbred high-couraged mare, was frightened by sinking so deeply into this bog and made every effort to disengage herself; in doing this she came nearly over me and in her struggles one of her forefeet struck the point of my bent right elbow (I had put my arm up by a natural movement to guard my head) and broke the olecranon. After being extricated, I had to walk about two miles to a country house where I was attended to by a medical man, who put my arm up in a straight splint. I remained for a week at the country house owing to the kindness of the gentleman

FIG. 5A.



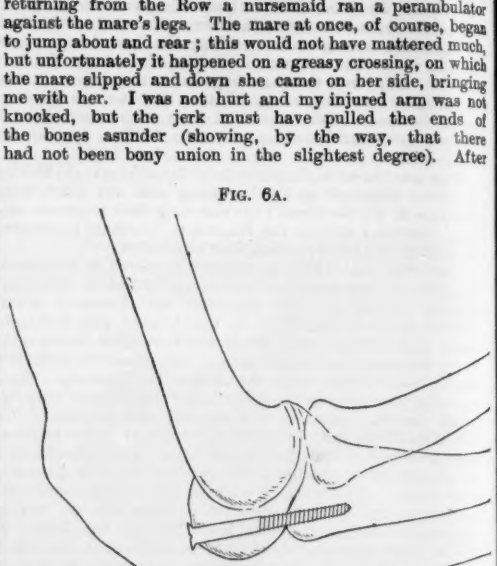
Elbow in extension; note new olecranon and lipping of bones.

FIG. 5B.

Elbow in flexion; same case as 5A.

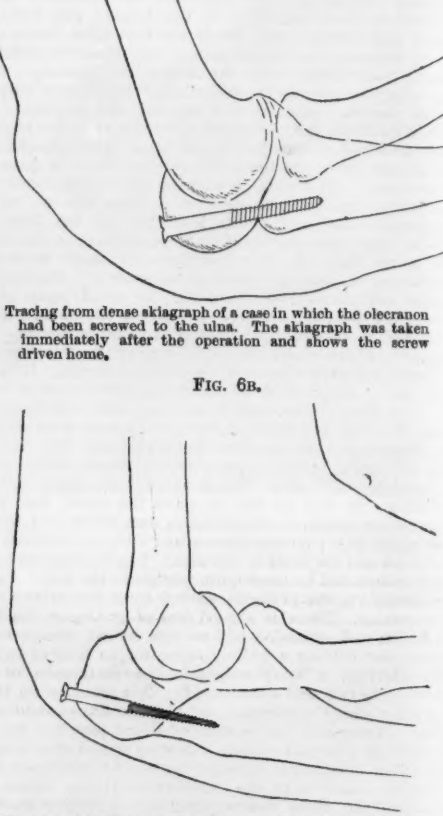
to whom it belonged and then returned to town. During this week there was a large amount of swelling and effusion of blood, &c., in the injured elbow but no very great pain. The swelling, &c., gradually went down under treatment and a well-known London surgeon who attended me on my return to town said that perhaps I should show the very rare case of a bony union. However, any chance of this was absolutely lost by my second accident which happened about six weeks after the first during a ride in London. My arm was then in a sling and I was riding the same mare. As I was returning from the Row a nursemaid ran a perambulator against the mare's legs. The mare at once, of course, began to jump about and rear; this would not have mattered much, but unfortunately it happened on a greasy crossing, on which the mare slipped and down she came on her side, bringing me with her. I was not hurt and my injured arm was not knocked, but the jerk must have pulled the ends of the bones asunder (showing, by the way, that there had not been bony union in the slightest degree). After

FIG. 6A.



Tracing from dense skiagraph of a case in which the olecranon had been screwed to the ulna. The skiagraph was taken immediately after the operation and shows the screw driven home.

FIG. 6B.



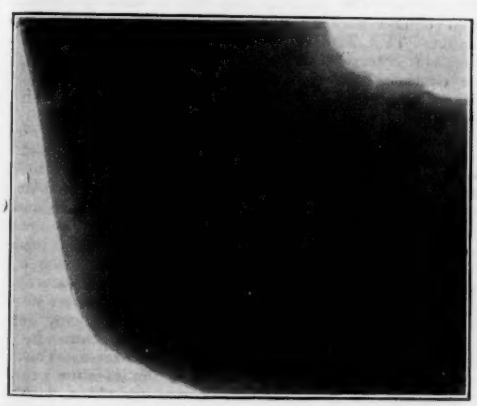
Tracing of another dense skiagraph of the same case as 6A taken two or three months after the operation. The screw projects from the ulna. The artist has represented bony union between the fragments, which is not so.

this I was advised by the same surgeon to simply carry my arm in a sling. This I did for some weeks or months without suffering any pain or inconvenience except through the arm being useless whilst in the sling. From the time of leaving off the sling the arm gradually got stronger and stronger; in fact, as is usual, the right arm soon got stronger than the left as it had been before and has been ever since. In a year or two it was just as useful as before the accident. I could not extend it quite fully, nor can I at present. In lifting it above my head the elbow presents a slight angle (about 160). I have not had the occasion to hit out with my right fist, so I cannot say if my blow with the right arm would be weakened. I should think it would be slightly. About four or five years after the accidents I used to fence a good deal and never found any difficulty from the broken limb excepting that my lunge was rather short owing to the arm not being quite

straightened. Subsequently I did some sword exercise (which is like single-stick) and never experienced the slightest difficulty in making the cuts and parries, but my lunge (as with a foil) was a little short. Every summer, dating from two years after the accident, I have done regular sculling on the Thames; in fact, in 1880 (I think) I twice took a skiff up from Richmond to Cricklade and back, doing about 15 miles a day. If I scull hard I get a kind of numbness in my little finger and part of my third finger; I suppose the ulnar nerve is slightly compressed in cicatricial tissue at the elbow. I have played billiards just as well after as before the accidents. If I write for a long time I get the numbness above referred to. My pistol-shooting is just as good as ever it was." The figures have been made from skiagraphs of the arm in flexion and in extension. The wide separation of the fragments is noteworthy, also the fibrous union between. As the skiagraphs were taken about 30 years since the accident it is extremely interesting to see that the shaft of the ulna has attempted to grow a small and new olecranon process. Other adaptive changes, lippings of osteo-arthritis, can be seen in the joint, such as enlargements of the anterior lips of the sigmoid cavity of the ulna and the head of the radius. No operation was undertaken in this case and in spite of all that you see the man has a most excellent arm.

The next two cases (Figs. 6A and 6B and Fig. 7) show the effect of using a screw instead of a wire. The first patient, under the care of Dr. A. G. Mackenzie of Addlestone, broke his olecranon. The olecranon had been united to the shaft of the ulna by means of a strong silk, the knot fastening which had been undone when movements were begun. A little later the silk was removed without any knot on it being present. It was then determined to fasten the detached olecranon process to the shaft of the ulna with a long screw, after freeing it from the humerus. This was done, the fragments being brought together excellently, as shown by the slide from the tracing of a skiagraph that was too dense to permit of a lantern slide being made. A skiagraph was taken a few days after operation and another skiagraph was taken about two months after operation. They show three points of interest; firstly, the screw is loosened, the process appearing to begin round the tip of the screw, where the surrounding bone had become more translucent to the x rays; secondly, the head of the

FIG. 7.



Skiagraph of another case showing a condition similar to that in the tracing 6 B, and also the separation of the fragments with the extrusion of the screw.

screw projects appreciably beyond the upper surface of the olecranon with which it was flush in the skiagraph taken shortly after operation; thirdly, the loosening of the screw has allowed the fragments to come apart, which is not shown by the artist in the tracing taken from a bad skiagraph, but easily demonstrated clinically as a gap between the fragments. Yet in spite of this the man has excellent movements and a most useful arm; full flexion and full extension of the elbow are limited by the fact that in spite of all our precautions the movements of the olecranon on the humerus are impeded by cicatricial contraction of the tissues which join the two together. At a later date the screw, which had become quite loose, was removed without any anæsthetic.

This slide (Fig. 7) is produced from a decent skiagraph of another olecranon which was screwed, the final result being excellent. It shows all the structures as they are and is therefore much better than the previous tracings. It was taken about a month or six weeks after the operation and shows that the fragments have come a little apart from each other and that the head of the screw projects from the olecranon. From this it is quite obvious that it is the fibrous union between the fragments which holds them together and not the loose screw. Internal splints do their work within a given time, like external splints, after which date they can be removed.

The preceding studies of the results of wiring the olecranon have demonstrated the following points. 1. That internal splints lead to absorption of the hard substances of the bone round them. 2. This condition in its turn leads to the loosening of the internal splint and therefore the more easily to its breaking with a sudden effort, to the commencing extrusion of a screw, and to some separation of the fragments. 3. If the part is kept at rest by external splints, in addition; the softened bone around the internal splint will harden and re-ossify, bringing about bony union between the fragments. 4. If the part is exercised, as it must be when the fracture is in the neighbourhood of a joint, the fragments are still further separated from each other and the union between them is fibrous, not bony. 5. A perfectly good and excellently functional limb is obtained with such a fibrous union, with some possible limitation of extreme flexion and extreme extension. 6. This limitation is caused by the adhesion or cicatricial contraction of the attachments of the olecranon to the humerus; putting the triceps at a mechanical disadvantage, arising and being inserted on the same bone. 7. The advantage of direct and internal splintage lies solely in its allowing movements to be begun early, preventing much limitation to the movements of the olecranon on the humerus. 8. From the point of view of the subsequent value of the limb it makes little or no difference whether the union between the fragments is fibrous or bony provided that the olecranon moves freely on the humerus. 9. It is a matter of indifference as to the nature of the internal splint used, such as silver wire, copper wire, iron wire, or silk. Screws are not so good as sutures in this situation. An absorbable suture is not a good internal splint, because its presence will be required for some weeks at least. 10. For success the operation area must not suppurate. 11. In neglected cases the fragments of the broken ulna may become more and more separated and if the skin becomes adherent a violent effort may tear open the joint! 12. An excellent result can be obtained with or without operation, provided the olecranon does not become restricted in its movements on the humerus. The more its restriction the worse the result. Hence the mobility or immobility of the olecranon on the humerus is a very important clinical index of the value of operation in the case. 13. If the fragments are to be sutured the operation should be done as soon after the accident as the condition of the skin allows. 14. Operation is indicated in the majority of cases, particularly by wide separation of the fragments in the early period and by imperfect mobility of the olecranon in the later stages. 15. The earlier that operation is undertaken the better the prognosis of its results.

Harley-street, W.

INTESTINAL INDIGESTION.

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DISTURBANCES of digestion are the commonest of disorders and while in a considerable number of cases they are comparatively trivial in character and quickly yield to dietetic and medicinal treatment, in others they are of a more chronic type and drag on for months or years the despair of the patients and of their medical attendants. Surgery may relieve some of these cases when there is a structural lesion, such as ulcer or dilatation of the stomach, underlying the condition, but in many there is no such gross anatomical change to account for the continuance of the symptoms, which are due to chemical and bacteriological abnormalities

in the contents of the alimentary tract arising from functional changes in the digestive organs.

The work of Pawlow, Bayliss and Starling, and others has done much to extend our knowledge of the processes involved in normal digestion and to furnish a sound basis for pathological research. The outstanding results of their investigations have been to show, first, that digestion does not consist of a series of isolated phenomena, as was at one time taught, but that each step in the process follows in an orderly manner as the result of the one which precedes it; and, secondly, that the chemical changes in the foodstuffs that fit them for absorption take place almost entirely in the upper part of the small intestine, chiefly through the agency of the various ferments contained in the secretion of the pancreas. The pathological importance of the interdependence of the various digestive processes is considerable, for if from any cause one or other of the steps is interfered with it will break the normal sequence of events and tend to bring about alterations in the chemistry, and subsequently in the flora, of the intestine that may have far-reaching results. There is, no doubt, a certain amount of compensatory activity between the various parts of the digestive system, and for a time a diminution of function in one may be more or less completely covered by the action of another, but in the end this compensation generally fails, or, as the condition becomes chronic, ceases to be adequate, and so only serves to tide over a temporary difficulty.

One of the most important links in the digestive chain is that which co-relates the functions of the stomach and pancreas. The work of the stomach is chiefly to reduce the food to such a state that it will not injure the intestine and may be readily acted on by the ferments which it is destined to meet in the succeeding parts of the alimentary tract. The function of the pancreas in digestion is to supply the main part of these ferments in such amounts, and of such kinds, as the constituents of the meal may require for their conversion into substances that can be absorbed by the intestinal epithelium. The link connecting the activities of the two is the body called "secretin" by its discoverers, Bayliss and Starling. This is a chemical product formed by the action of the acid chyme, and to a less extent by fats and a few other substances, on the epithelial cells of the upper part of the intestine. It is absorbed by the blood and, passing to the pancreas, induces a flow of pancreatic secretion proportional in amount to the quantity of the stimulus and to the degree of acidity of the chyme. Secretin is also believed to play a part in bringing about a flow of the succus entericus, the digestive importance of which has recently been shown to be considerable.

The actual digestive changes that take place in the stomach under ordinary conditions are comparatively unimportant. Starches are not affected at all, fats are but little changed, and the proteolytic ferment of the gastric juice works very slowly, only splitting up the more readily acted on proteins to any appreciable extent. The collective pancreatic ferments are capable of acting upon all forms of foodstuff; proteins are easily and rapidly broken down into simple and readily absorbable cleavage products by the powerful tryptic ferment; starches are converted into dextrin and maltose by the amylopsin; and fats are split into their constituent fatty acids and glycerine by the steapsin. It is important to remember, however, that collagen, the chief constituent of connective tissue, is not digested by pancreatic juice unless it has been previously acted on by a dilute acid or boiled in water, so that the appearance of connective tissue in the fæces points to a disturbance of gastric digestion. The intestinal secretion, beside the "ferment of ferments," enterokinase, by which the inactive trypsinogen of the pancreatic juice is converted into active trypsin, contains erepsin, which has the power of splitting up proteoses and peptones, but not the native proteins except casein, into simpler chemical bodies and a series of ferments which convert cane-sugar, lactose, and maltose into dextrose and levulose. The succus entericus thus appears to act as a supplement of the pancreatic secretion, particularly as regards the digestion of proteins and carbohydrates.

Disturbances of the digestive functions of the pancreas and alterations in the intestinal secretion may induce abnormal changes in the food materials which will not only interfere with absorption but also give rise to the formation of unusual chemical products the presence of which may irritate the walls of the intestine. The altered reaction and composition of the intestinal contents existing under these conditions also tend to bring about a modification of the flora; micro-organisms which are usually only met with in small numbers may find the conditions more suitable for their growth and so multiply to an abnormal extent; others which are normally present in large numbers in the lower bowel but are scanty in the upper part of the intestine may spread to the ileum and duodenum, and even infect the pancreatic and bile ducts, and by a process of adaptation to their environment some may develop activities which were formerly insignificant or perhaps even altogether in abeyance. Hence putrefactive decomposition may take place in the undigested, or partly digested, proteins, fats may be decomposed by fat-splitting bacteria, and carbohydrates be broken down along unusual lines into irritating organic acids, &c., with the formation of a large amount of gas, so that the small intestine becomes the seat of changes which normally only take place to a small extent in the colon and sigmoid flexure.

The symptoms produced by such alterations in the chemistry of the digestive processes vary somewhat according to the stage of the disease and the predominance of one or other of the morbid processes. In the early stages when, as is often the case, there is hyperchlorhydria the pancreas is stimulated to unusual and abnormal activity owing to the hydrochloric acid produced in the stomach being much more than is really required for the amount and kind of food ingested. Intestinal digestion is therefore very rapid and complete, but as the pancreatic and intestinal ferments have also been poured out in excess of what is needed and, according to Starling's experiments on dogs, a mixture of pancreatic juice with the intestinal ferments gives rise to inflammatory changes and erosions in fasting animals, their presence is likely to set up some inflammatory reaction in the intestine. This is shown by abdominal discomfort, rather than pain properly speaking, which is intensified by food and becomes particularly marked when intestinal digestion is at its height, two or three hours after meals. There may be diarrhœa from the intestinal irritation but more commonly constipation is met with at first, as digestion is unusually complete. At this stage a quantitative chemical analysis of the fæces shows a low percentage of unabsorbed fat, the proportion of unsaponified fat being most markedly diminished. As the condition becomes more chronic the pancreas may fail to meet the demands upon it and undergo a certain amount of degenerative change. This may be intensified by the occurrence of an infective catarrhal pancreatitis (or "Wirsungitis"), for the catarrhal changes in the intestine give rise to conditions that are favourable to the overgrowth of bacteria and their spread upward from the lower bowel to the jejunum and duodenum, whence they may spread by direct continuity to the pancreatic ducts. There will now be added to the symptoms previously mentioned those due to imperfect digestion arising from diminution or perversion of the pancreatic secretion. The digestion of fats is, as a rule, most noticeably affected, and occasionally may be obvious on naked-eye examination of the stools. Quantitative chemical analysis of the fæces is, however, a much more reliable guide, and in most cases will show an abnormally high percentage of unabsorbed fat, with an excess of unsaponified over saponified fats. In some instances, owing to the abnormal activity of fat-splitting bacteria in the intestine, the saponified fats may be in excess. The imperfectly digested proteins present in the intestine provide a nidus for the growth of putrefactive organisms, with the result that toxic substances are formed and pass into the circulation. There are then frequently added to the symptoms of intestinal indigestion those of a toxæmia. The patient complains of constant headache, there is a feeling of weight and oppression, he is unable to concentrate his attention or perform any prolonged mental labour, the skin is unhealthy looking and often has a subicteric tinge, the extremities are cold, and the metatarsal joints are not uncommonly enlarged. If the liver is healthy it may for a time protect the rest of the body, but as there are often an infection of the biliary passages and some interference with the functions of the liver toxæmia is a common complication. Examination of the stools may show a number of undigested and partly digested muscle fibres, but if the functions of the stomach are being satisfactorily carried out

these will be found as individual fibres and not as associated bundles. Carbohydrates, instead of being digested and absorbed in the usual way, are apt to be broken down by the action of the intestinal bacteria into organic acids and gases, so that abdominal distension, gaseous eructations, and the passage of flatus occur.

In some instances the disease appears to be due to a bacterial infection from the commencement and may occasionally be traced to an antecedent attack of influenza or typhoid fever. In such cases there are nearly always an associated pancreatitis and cholangitis and it is to the former that the disturbances of digestion are chiefly due. The attacks in these cases are often of a remittent character, but, although the patient may be comparatively well in the intervals, he is never quite free from discomfort. Certain articles of diet and particular forms of food material are frequently found to increase the discomfort and to precipitate an attack; fatty foods, and particularly some forms of fat, are often digested with difficulty and several patients have voluntarily informed me that milk was "poison" to them.

The diagnosis of intestinal indigestion is made partly from the clinical symptoms and partly from the results of an analysis of the fæces, urine, and stomach contents. Each supplies a certain amount of information but no one affords a pathognomonic sign. A correct conception of the conditions present in any particular case can only be arrived at by taking into consideration the information to be obtained from them all. The presence of abdominal discomfort, more marked two or three hours after food, loss of appetite and distaste for certain articles of diet—fat or milk, for example—lassitude, inability to concentrate the attention, with often persistent headache, a dirty tongue which is frequently fissured, fœtid breath with eructations of gas, abdominal distension, and occasional tenderness on deep pressure in the region of the head of the pancreas, the passage of much flatus with often foul-smelling stools, and either diarrhœa or constipation are suggestive of the condition.

The analysis of the fæces should be as complete and exhaustive as possible, for the macroscopical, microscopical, chemical, and frequently the bacteriological characters all assist in arriving at a conclusion as to the nature and extent of the disease. Although much may be learnt from an investigation of the fæces passed on an ordinary mixed diet it is advisable in some instances to place the patient on a test diet, such as that suggested by Schmidt,[1] when a more accurate estimate of the digestive disturbances can be made. Information as to the particular kinds of food-stuffs that are undigested may also be obtained by the "bead-test," in which pieces of raw catgut, meat, potato, and mutton fat are attached to coloured beads and given by the mouth in a capsule, the beads being afterwards recovered from the fæces and examined.

In the analysis of the urine attention must be particularly devoted to the "pancreatic" reaction,[2] as indicating active degenerative changes in the pancreas and involvement of the gland, the presence of an excess of indican and a disturbed relation between the preformed and ethereal sulphates, as showing abnormal putrefactive changes in the intestinal contents with catarrh of the walls, and a marked reaction for urobilin, which in my experience points to an associated cholangitis and disturbance of the liver.

The stomach contents should be examined both before and after a test meal for evidences of hyperchlorhydria, catarrh, dilatation, &c., as the intestinal condition is often associated with, and secondary to, disease of the stomach. To obtain really useful information it is necessary that the meal should be of a definite and simple character, and that the test should be carried out under certain conditions. The most generally useful test meal is the Ewald-Boas breakfast, consisting of 35 grammes (about two slices) of bread, or toast, without butter, and 400 cubic centimetres (about two cups) of water or weak tea without milk or sugar. This should be withdrawn not less than three-quarters of an hour and not more than one hour after it has been taken. In regaining it no water should be used as this would vitiate the quantitative analysis and so deprive the test of the greater part of its value; if the patient is unable to return the meal through the tube spontaneously some simple form of suction apparatus, such as that of Senorans, should be used.

[1] The Test-Diet in Intestinal Diseases, Adolf Schmidt, translated by C. D. Aaron (Davis and Co., Philadelphia, 1896).
[2] The Pancreas, its Surgery and Pathology, Mayo Robson and Cammidge, p. 252 (Saunders and Co., 1908).

The treatment is based upon the pathological findings and will vary with the cause of the condition and the degree to which the various factors mentioned contribute to the result. The choice of a suitable diet is the first consideration. The guide to this is the result of the examination of the fæces, from which may be learnt the types of food that are undigested and are contributing most to the irritation of the intestine. The meals should be arranged so that there is the longest possible interval between them in order that the digestive organs may be given a maximum amount of physiological rest, and if one meal is made as far as may be carbohydrate, while the next is chiefly protein, this end is contributed to. Foods rich in proteins are to be recommended in cases where the production of hydrochloric acid is found to be excessive, and in these cases, too, an eggspoonful of a mixture of equal parts of sodium bicarbonate, magnesium carbonate, and calcium carbonate after meals, or 1 to 3 parts of hydrogen dioxide in 200 to 300 cubic centimetres of water in the morning, fasting, as suggested by Petri,[3] are also useful in controlling the hyperchlorhydria.

In cases where the bacterial element predominates and there is evidence of toxæmia the use of butter-milk, or, better, of a preparation of milk "soured" with a reliable culture of the Bulgarian lactic acid bacillus, often gives very good results. In some cases, however, the milk has appeared rather to aggravate the intestinal discomfort and has had to be given up. In several instances I have been able to relieve the toxic symptoms by inoculations, or the administration by the mouth on an empty stomach, of vaccines prepared from cultures of the predominant organisms in the fæces. Castor oil or calomel in doses of from one to four grains is a useful preliminary to other treatment, and I always advise that a blue pill and black draught should be taken at the commencement of the treatment and once a month afterwards, even after the symptoms have subsided.

Where the results of the "pancreatic" reaction in the urine and the analysis of the fæces point to involvement of the pancreas the cause of the pancreatitis must first be determined. Pancreatitis is never a primary disease, although the symptoms to which it gives rise may be the dominant features of the case, and to attempt the cure of the pancreatic condition without at the same time treating the cause is to labour in vain. If infection of the duodenum and pancreatic ducts is present the treatment of the former should be undertaken along the lines already indicated. The most useful drug for dealing with the infection of the pancreatic duct and biliary passages is undoubtedly urotropine.[4] I have seen cases that have cleared up in a week or ten days after commencing to use it. As it is somewhat irritating and may therefore possibly increase the inflammatory reaction in the pancreas when given in large doses, I usually prescribe 5 grains, well diluted, three times a day. Salicylates, too, are of use in these cases as they also are excreted by the pancreas and exert an antiseptic action on the contents of the ducts, but they do not appear to act as quickly or efficiently as urotropine.

In the more chronic cases, with marked disturbance of the functions of the pancreas, medicinal treatment may prove of no avail and resort must then be had to surgical measures, the infected ducts being drained through the common duct and gall-bladder by the operation of cholecystotomy or cholecyst-enterostomy.

The early recognition and treatment of intestinal indigestion are primarily important because of the discomfort the condition causes the patient and also because of the interference with nutrition that it brings about, but the complications and sequelæ that are liable to occur in chronic cases are of no less moment. Toxæmia may entirely unfit the patient for any occupation involving mental strain or concentration, and one finds that a considerable number drift into that somewhat heterogeneous group of cases provisionally labelled "neurasthenia." A remote consequence of chronic intestinal indigestion, but one which I am convinced is not to be despised, is the ultimate occurrence of diabetes. This is apparently due to involvement of the pancreas in the disease, and although we do not at present know for certain why some cases of chronic pancreatitis due to infection of the ducts should develop glycosuria, while other, and apparently quite similar cases, do not, the fact remains that it is not a negligible possibility. The progress of the disease is

[3] Archiv für Verdauungs-Krankheiten, Band xiv., p. 479.
[4] S. J. Crowe: Johns Hopkins Hospital Bulletin, April, 1908, p. 109.

usually slow and although I have notes of several cases in which glycosuria has occurred within a year or two of the first appearance of the symptoms of intestinal indigestion others have dated back the initial attack ten or 15 years. I have for some time maintained that the treatment of diabetes is to a large extent prophylactic,[5] and I believe that in the early treatment of disturbances of the chemistry and bacteriology of the upper intestine lies, at any rate in part, the solution of a difficult problem.

Beaumont-street, W.

ON THE CAUSE OF ACHROMASIA IN LEUCOCYTES.[1]

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IN recent publications (1, 2, 3)* I have drawn attention to a method of examining living blood cells by spreading them upon agar jelly which contains stain and salts in solution. These papers have described how the leucocytes absorb the stain during life, and that their granules and cytoplasm become coloured, but that the colouration does not apparently affect their life since amœboid movements continue. However, as soon as their nuclei stain, death ensued, and liquefaction of the cytoplasm then occurs, followed by a gradual, and in certain circumstances rapid, loss of stain. This loss of stain being a remarkable phenomenon required further investigation. The present paper describes the result of this investigation with an enumeration of a series of associated events which occur in cells shortly after death, and I shall endeavour to show the cause of the loss of stain by connecting these events together.

The researches already referred to have demonstrated that the cytoplasm of leucocytes appears to present jelly-like properties and that the diffusion of stain into it is hastened by heat and alkalies and is delayed by neutral salts. Consequently, when the cells are resting on agar which being of a certain temperature contains also a sufficiency of stain and alkali to stain the nuclei, death is occasioned, and it occurs either just before or just after the staining of the nucleus, for I am unable to determine whether the staining of the nucleus causes death, or whether death allows the nucleus to stain. The fact remains, however, that staining of the cytoplasm and granules does not appear to be very detrimental, for leucocytes will even show excited movements under these conditions, but with a stained nucleus they are invariably immobile, even on a jelly which contains stimulating constituents (3).

If the stained agar film on which the cells are resting contains sufficient alkali and heat to cause the stain to diffuse into the cells to such an extent as to produce staining of the nucleus and death, the cytoplasm begins to liquefy as demonstrated by the onset of Brownian movement of the granules, and it has already been shown that liquefaction of the cytoplasm begins at the periphery and progresses towards the nucleus (2). Then a remarkable thing happens. The nucleus gradually loses its stain until it appears as unstained as it was when the cell was placed on the agar.

The researches also showed that this loss of stain from stained leucocytes occurs with varying rapidities. For instance, in Experiment 1, given in the paper "On the Death of Leucocytes" (1), when the agar on which the cells are resting only contained stain and no salts "the nuclei and granules of these cells remained stained for two or three hours; when, however, they burst, their stained nuclei and granules were discharged and remained stained a purple colour, so that ultimately the slide contained many free and stained nuclei floating about under the cover-glass." In Experiment 3, however, in the same paper, when the agar contained the salts, sodium citrate and sodium chloride, the following occurred: "In about half an hour after staining of the nucleus the stained part of the cytoplasm gave up its stain, and then the nucleus and granules did the same until the whole cell was as unstained as it appeared when the slide was prepared." Both of these experiments were conducted at a temperature of 30° C. I will endeavour to show that there is an intimate relationship between this loss of stain from the nucleus and the liquefaction of the cytoplasm.

Definition.—A leucocyte may be defined as being achromatic when its stained nucleus has lost its stain, or when its unstained nucleus refuses to stain with the cell resting in a medium which will stain the nuclei of fresh normal leucocytes.

Methods adopted for demonstrating achromasia.—1. Some blood was citrated and kept at a temperature of 30° C. for four days, when it was found that many of the nuclei of the leucocytes refused to stain by the ordinary methods of staining blood.

2. Blood was examined at a temperature of 30° C. on a film prepared from a jelly, 6 cubic centimetres of which contained 1 cubic centimetre of Unna's polychrome methylene blue (Grubler) and 5 cubic centimetres of water. It also contained in solution 1 per cent. of agar, 1 per cent. of sodium citrate, and 0·5 per cent. of sodium chloride, and it was rendered alkaline by the addition of 0·4 cubic centimetre of a 5 per cent. solution of sodium bicarbonate.[2] The nuclei stained deeply in ten minutes and then slowly lost their stain. After the loss another part of the same agar film stained the nuclei of fresh normal leucocytes.

3. 2 per cent. of sodium citrate and 0·5 per cent. of sodium chloride were added to some Unna's stain. A volume was mixed with an equal volume of blood and kept at 37° C. for 15 minutes. An agar film was prepared as in Method 2. The corpuscles in the incubated mixture were examined on this film and were seen to be deeply stained. The slide was then incubated for ten minutes, it having previously been shown that at this temperature there was sufficient concentration of stain and alkali in the agar to stain fresh normal leucocytes in ten minutes. It was found, however, on removal from the incubator that the stained nuclei had lost their stain, though many of the cells were intact and not ruptured.

Since cells kept for four days are dead (3), and since staining of the nuclei is a sign of death (1), I conclude that achromasia is due to a change taking place in the cells after death, for it is evident that the stain remains unchanged as it will stain the nuclei of fresh normal leucocytes.

Effect of heat on achromasia.—Method 2 was repeated, but with a temperature of 20° instead of 30° C. 0·5 cubic centimetre instead of 0·4 cubic centimetre of alkali solution had to be added to produce staining in the same time (1, 3). Few of the nuclei lost their stain until rupture of the cells. I hence conclude that heat accelerates achromasia.

Effects of salts and rupture on achromasia.—Method 2 was repeated and the experiment given in the last paragraph was also repeated; at either temperature (20° C. or 30° C.) if a cell ruptured it lost its stain immediately. But in the first experiment quoted from a former paper, when salts were absent, it was stated that when the cells ruptured, free, stained nuclei were to be seen floating under the cover-glass. I conclude that rupture causes immediate achromasia in the presence of salts but not in the absence of salts.

Effect of heat and salts on liquefied cytoplasm.—Previously to incubation of the slide for ten minutes, as described in Method 3, the granules were showing Brownian movement whereas after the incubation the granules appeared quite fixed, and since Brownian movement of the granules is a sign of liquefaction of the cytoplasm (1), it is manifest that the incubation for ten minutes had in some way affected the cell contents. Yet in the first experiment in the previous paper, part of which has already been quoted, it was shown that Brownian movement continued for a long time on agar which contained no salts although the slide be kept at 30° C. In this last experiment, therefore, heat does not apparently affect liquefied cytoplasm. The inference is that liquefied cytoplasm will pass out of the cells by osmosis in the presence of heat and salts, in which case the cell collapses and the granules appear fixed; but if no salts are present osmosis will not occur even at a comparatively high temperature.

Experiments to show the relationship between osmosis of the cytoplasm and the onset of achromasia.—When Method 3 was repeated but without incubation of the slide achromasia did not take place for a long time at a temperature of 15° C.,

[5] Pancreatic Diabetes (Surgery, Gynecology, and Obstetrics, January, 1908, p. 22).

[1] The word leucocyte in this paper refers to the polymorphonuclear leucocyte.

* The figures within parentheses refer to the bibliography at the end of the article.

[2] Merck's reagents have been used throughout.

but the Brownian movement continued, showing absence of osmosis of the cytoplasm. Yet both achromasia and osmosis occurred rapidly at 37° C. I conclude that there is a relationship between osmosis and achromasia, and this conclusion is borne out by the fact that if we accelerate osmosis by the addition of salts we also concomitantly accelerate achromasia. Yet the onset of achromasia cannot be absolutely dependent on osmosis of the cytoplasm, because, firstly, the cytoplasm may be entirely washed away without achromasia as in the first quoted experiment; and, secondly, achromasia can occur without osmosis of the cytoplasm as demonstrated by the following experiment. Blood was mixed with an equal volume of citrated stain and kept at 37° C. Examination of a sample on a slide showed that the nuclei were stained in 15 minutes. In one hour a fresh sample showed that many of the cells had lost their stain, and in the majority of these achromatic cells the granules were immobile, though very occasionally Brownian movements were seen in them.

At first sight the deductions from the foregoing experiments appear to be paradoxical, for they show that while there is a relationship between osmosis and achromasia the achromasia may occur without osmosis, provided there are salts in the surrounding medium, and furthermore that if there are no salts present achromasia will not occur even if the cytoplasm is completely washed away from the nucleus. The obvious conclusion is that achromasia is due to the nucleus being in contact, either directly or through the cell wall, with a highly saline medium. That is, that it is due to dialysis of the chromatin. This explains why rupture of a cell in the presence of salts causes the nucleus to lose its stain instantly, no matter at what temperature it may be kept; and it also explains why acceleration of osmosis of the cytoplasm out of an unruptured cell will accelerate achromasia, for the cell collapses and the chromatin dialyses out through the cell wall.

There are a number of other facts which I have observed in connexion with this subject which are not yet explained on the above hypothesis. For instance, a cell remains stained for some little time after cessation of amœboid movement, even in the presence of salts and at a high temperature, whereas according to the above theory the cell should lose its stain immediately after death. And again, it has been mentioned in a former paper (1) that pressure accelerates achromasia, for a stained cell will lose its stain sooner when gently pressed out by a cover-glass than if it is floating near a bubble. The following experiment elucidated these points.

Experiment to show that the onset of achromasia is also dependent on the completion of the liquefaction of the cytoplasm.—Some blood was mixed with citrated stain and incubated until the nuclei stained. The cells were then washed by adding to the mixture four times its volume of a solution containing 3 per cent. sodium citrate and 0·5 per cent. sodium chloride. The combination was incubated for half an hour and on examination the majority of cells had lost their stain but they were not really achromatic, because when more stain was added to the cells which had been allowed to settle by gravity in one end of the tube it was found that the nuclei re-stained. It was also noticed that the cytoplasm immediately surrounding the nuclei was still solid, as it coloured faintly (2). This experiment was repeated with incubation of the washed cells for two hours when it was found that the majority of the cells could not be re-stained and that apparently all the cytoplasm had liquefied. I have shown that this liquefaction of the cytoplasm is a gradual process.

Summary.

In my description of an excitant for leucocytes (3) I have pointed out that some time after death polymorphonuclear and eosinophile leucocytes frequently appear as if they were mononucleated. This I believe to be due to liquefaction of the nucleus when the lobes "run" together to form a single nuclear mass. Liquefaction of the cytoplasm begins at the periphery and gradually progresses towards the nucleus (2). If the cell is resting in a saline medium, and if a certain amount of heat is present, the liquefied cytoplasm passes out of the cell as soon as it liquefies, which explains the absence of Brownian movement of the granules at death on citrated agar at comparatively high temperatures (1, Experiment 3). When the cytoplasm has completely liquefied, the nucleus loses its support and comes in contact with the cell wall. Dialysis of the chromatin may then occur. So long as there is unliquefied cytoplasm between the nucleus and the cell wall, no dialysis of the chromatin can take place and the nucleus remains stained. When a cell is pressed out there is only a film of cytoplasm to liquefy, and achromasia consequently occurs rapidly after death, especially if osmosis is hastened by heat. Whereas, if the cell is floating it will take a longer time because its shape is spherical. This will explain all the phenomena seen, including the points that osmosis can occur to some extent without achromasia and that achromasia can occur without osmosis of the cytoplasm.

I have mentioned that the occurrence of achromasia is a remarkable thing to watch. It is, of course, better seen at a room temperature of 30° C. or with a warm stage. Temperatures below this delay osmosis and this causes the majority of the cells to rupture before loss of stain. When they rupture the stain disappears instantly provided salts are present. For instance, if Method 2 is repeated the cells are seen to be spread out in a purple field. At first they are unstained; gradually the granules of the leucocytes turn red and the cytoplasm colours a faint pink. The nucleus remains unstained for some time while the cell is alive, but its outline slowly turns blue and then becomes bright scarlet demonstrating that death has taken place. The chromatin network shows up well and for a short time it gets a deeper and deeper colour, until one almost wonders whether it is going to turn black. After a little time, however, a climax is reached, and then achromasia begins. The colour slowly fades away from the nucleus, almost imperceptibly at first, until at last the cell remains quite unstained. The phenomenon reminds one of a magic-lantern dissolving view.

These experiments form part of my researches into the life and death of leucocytes, my aim being to measure the *in vitro* life of these cells in the hope of obtaining an estimate of cell-immunity thereby. A procedure for differentiating living from dead leucocytes has already been published. The subject of this paper refers to cells that are dead. This phenomenon of achromasia is frequently met with when counting the number of dead and living leucocytes in a tube of citrated blood by the procedure mentioned (3). It is important, therefore, to be able to recognise achromasia, for it is a certain sign of death.

I am publishing this method of *in vitro* staining, which has revealed some interesting points in the life of cells, in the hope that the explanation of achromasia which I have offered may be useful to others who wish to employ stained agar for the examination of blood.

I am indebted to Dr. M. Armand Ruffer, C.M.G., President of the Sanitary and Quarantine Council of Egypt, for having given me an opportunity for continuing these researches.

Bibliography.—H. C. Ross: (1) On the Death of Leucocytes, Journal of Physiology, vol. xxxvii., p. 327, 1908; (2) On the Vacuolation of Leucocytes and the Liquefaction of their Cytoplasm, idem, p. 333; (3) On a Combination of Substances which Excites Amœboid Movements in Leucocytes, THE LANCET, Jan. 16th, 1909, p. 152.

Liverpool.

"ENDEMIC FUNICULITIS."

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THE condition so admirably described, under the above title, by Dr. Aldo Castellani on p. 15 of THE LANCET of July 4th, 1908, is also endemic to Egypt. In THE LANCET of Feb. 23rd, 1907, p. 505, Mr. F. C. Madden drew attention to the disease, naming it "Cellulitis of the Spermatic Cord." During my term of office at Cairo ten patients suffering from endemic funiculitis were admitted to the hospital. I was able to operate upon and to investigate five of these. On the whole my results agree with those obtained by Dr. Castellani. There is no doubt but that the same curious condition of the tissues of the spermatic cord is found both in Ceylon and in Egypt. With regard to etiology and treatment, I wish to bring forward suggestions which may be of use in the further investigation of the condition.

Incidence.—In Egypt the condition is decidedly rare. Only ten cases were seen among 13,657 admissions. It appears to be a disease of young adults. In my series the average age was 28·6 years, the youngest patient being 15 and the oldest 34 years.

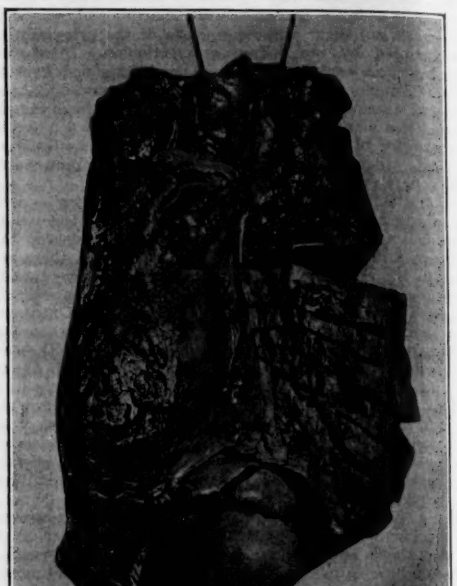
Etiology.—A simple (i.e., non-suppurative) thrombosis of the pampiniform plexus is by no means uncommon in Egypt. We also meet the very acute suppurative condition described by Mr. Madden and Dr. Castellani. Cases intermediate between the simple and the very acute occur, and this led me to believe that they were all due to some common predisposing factor. That this relationship is not purely hypothetical was finally proved by Cases 3 and 5. In the former a patient, admitted with simple thrombosis, gradually developed typical acute funiculitis. In the latter, a man, admitted with acute funiculitis, when convalescing after operation, developed simple thrombosis and ultimately acute funiculitis on the other side.

When suppurative changes do not occur, simple thrombosis of the pampiniform plexus presents no differences from thrombosis in any other vessel. Satisfactory investigations into its pathology are therefore impracticable, since excision of the tissues is unjustifiable. I have withdrawn blood by means of an exploring syringe in four cases, but it was invariably sterile. I am of opinion that this thrombosis is due to inflammatory changes in the vas deferens, but this is mere theory. The subject is one which would repay investigation. All the cases which I have seen gave a history of a urethritis. As such infections are of so universal an occurrence in Egypt as almost to constitute accessory signs of puberty, this observation in itself is of little value.

With regard to my five cases of endemic funiculitis, three were suffering from gleet. The other two denied anything of the sort. Microscopic examination of their centrifugalised urines, however, revealed "threads," disorganised cells, &c., and urethroscopic investigation showed definite granular patches in the mucous membrane. At first sight it would appear that urethritis could be dismissed in this connexion as a coincidence as it was in regard to the simple thrombosis. Such, however, is not the case, for the following reasons: 1. The diplococcus found by Dr. Castellani and myself is one of the common flora of the urethra in chronic gleet. 2. Tissues, whether from Egypt or Ceylon, on section show the vas to be lined with granulation tissue. 3. My sections show definite new blood-vessels passing from the tissues within the vas to those of the cord. I am therefore of the opinion that the suppurative condition is due to the extension of an infection from the urethra by way of the vas deferens. It is yet to be ascertained whether the diplococcus is the chief or merely the secondary factor in the production of the condition. Its invariable occurrence shows it to be the cause of the suppurative changes, and as far as one may deduce from only five cases the infection always takes place per urethram. In his paper on the subject Mr. Madden states that it is common to get a history of long-standing hernia on the affected side and in two cases he found a hernial sac to be present on operation. In this series only Case 1 gave such a history and careful dissection failed to reveal any sign of a sac.

In the literature at my disposal I have failed to find any description of the condition. In Vol. V. of von Bergmann's "System" (p. 672) reference is made to the occurrence of an acute suppurative inflammation in some remnants of the processus vaginalis as a result of an infection from without, or the extension of a suppurative inflammation from the neighbourhood. At first sight it might seem possible that those patients who give a history of hernia and in whom no sac can be demonstrated are cases of hydrocele of the cord in which such an infection has taken place. This, however, is decidedly hypothetical. Were this the explanation of the condition we should expect to find an abscess cavity limited by the original hydrocele wall and surrounded by an inflamed zone, not a diffuse infiltration studded by numerous abscesses. Further, no analogous infection of hydrocele of the tunica is recognised.

Pathology.—The accompanying photographic illustration shows the tissues removed by orchidectomy. The testis and epididymis are uninvolved at the base of the specimen. The tunica vaginalis is normal in appearance and contains a small quantity of clear fluid. Above the vas and vessels are surrounded by a mass of dense tissue of elastic, springy consistence, greatest in extent below. Scattered throughout the mass are suppurative foci and small islets of fat. Sections show the tissues to be densely cellular with very numerous small vessels. The walls of the vas show symmetrical thickening and the lumen is completely blocked by a cellular granulation tissue rich in capillaries. Vascular connexions between these capillaries and vessels outside the vas can be traced. Islands of adipose tissue invaded by dense connective tissue partitions and permeated by leucocytes (mainly lymphocytes) are met with in many of the sections. The connective tissue present throughout the mass is mucoid in type with large branching cells and wide intercellular spaces. No significant change is found on examination of the epididymis. Its tubules appear normal. Their



Reproduction of a photograph of the tissues excised in Case 1. Note the normal testis and epididymis below and the enormously enlarged cord above.

cubical epithelium is definitely pigmented. Areas crowded with lymphocytes appear throughout the organ but no changes are seen which suggest bacterial action. There is no sign, either micro- or macroscopic, of a hernial sac. In one case no cultures were taken. In the other four I obtained in pure culture the diplococcus so fully described by Dr. Castellani.

Symptoms.—All the features of the acute form are fully described by Dr. Castellani. In the milder type the onset is more gradual. A swelling is noticed in the inguinal region which increases in size and becomes tender and painful. The temperature rises rapidly, and unless surgical interference is obtained the symptoms become those of the acute variety.

Treatment.—Both Mr. Madden and Dr. Castellani recommend complete excision of the affected tissues. This treatment was adopted in Case 1 with very satisfactory results. In the others a less radical procedure was employed—namely, exposure of the mass by a free incision through the skin and external oblique, followed by numerous incisions into the tumour. The whole wound is left open and fomentations applied every four hours till the surface is clean. The wound is then left to heal by granulation (Cases 2, 3, and 5) or is skin-grafted. (Case 4.) The more radical treatment has an undoubted advantage inasmuch as it considerably shortens the duration of the patient's stay in hospital. Properly carried out, it is practically a "clean" operation. The skin and the walls of the canal, though red, are not in a suppurating condition, and they heal well. On the other hand, orchidectomy seems to be an unduly severe proceeding. It may be urged that in the conservative treatment the inflammatory changes round the vas cause obliteration of the lumen of

that duct, so that the testis can no longer function as a reproductive organ. Be this as it may, there is no reason to suppose that the internal secretory function is impaired in any way, and on this ground alone the more conservative treatment is clearly indicated. When the infection is bilateral, as in Case 5, it becomes a matter of the utmost importance to bear this secondary function in mind. Again, in the radical operation it may be by no means easy to decide that the whole of the affected tissue has been removed. In tying the cord high up in the internal ring an infected focus may easily be left behind in the apparently healthy stump and cause considerable trouble in the extraperitoneal tissues deep to the reconstructed inguinal canal. Although no such complication occurred in Case 1, nor in any of those of Mr. Madden's cases I have been fortunate enough to see, the possibility is by no means remote and deserves consideration. In cases treated by incision, on the other hand, any focus high up in the cord will certainly drain downward to the freely opened tissues.

Clinical Histories of the Cases.

CASE 1.—An Egyptian, age 15 years, gave a history of swelling in the right side of the scrotum of six months' duration. This swelling had been painless and had occasionally disappeared. Three days before admission the youth had become severely ill. There had been great pain in the scrotal swelling, vomiting, constipation, and collapse. A clear history of a rigor was obtained. The patient had had a urethritis for nearly a year. On admission his condition was grave. His temperature was 39·5° C., his pulse was 130, and his respirations were 45. His facial aspect was of the abdominal type. His tongue was dry and brown. On the right side a hard swelling extended upwards from the testis to the external ring and could be traced up the canal as a hard cylinder. It was intensely tender on palpation, dull to percussion, and the skin over it was red, hot, and œdematous. Operation was immediately performed. An incision was made from the site of the internal ring to the lower part of the scrotum. The external oblique was slit up and the whole mass thus exposed. The testis and tumour were easily separated from the surrounding tissues. Traction upon them brought apparently healthy cord into view at the internal ring, where it was transfixed and divided. The vacant canal was closed by means of catgut sutures and the skin incision was sewn up. The patient's temperature rapidly fell after operation and reached normal in 60 hours. The wound healed by first intention and the lad was discharged on the eleventh day.

CASE 2.—A Burbereen, age 34 years, gave a five days' history of pain and swelling in the right side of the scrotum. He had never noticed any trouble in this region before. He had had an acute urethritis two years previously and had had a slight gleet ever since. On admission the inguinal canal and scrotum on the right side were occupied by a large, hard swelling which was intensely tender and gave no definite fluctuation. The temperature was 38·8° C. and the pulse was 100. At the operation an incision was made along the line of the inguinal canal and carried down to the scrotum. The inguinal canal was opened and numerous incisions were made into the exposed mass. The cut surfaces everywhere showed innumerable small abscesses. The whole wound was left open. Lysol fomentations were applied every four hours. For six days there was a profuse discharge of pale yellow pus. It diminished on the seventh, when dry dressings were substituted for the fomentations. On the tenth day the skin edges were brought together over the upper end of the wound, the rest of which rapidly granulated. The man was discharged to the out-patient department 21 days after operation.

CASE 3.—An Egyptian, age 34 years, noticed a painless swelling in the left inguinal region ten days before admission. It gradually increased in size but remained painless. When he attended as an out-patient he was found to be suffering from thrombosis of the pampiniform plexus and was admitted for observation. At that time his temperature was normal and he felt quite well. Four days after admission he complained of a dull pain in the swelling, which had become slightly tender. Next day his temperature rose to 38° C. and seven days after admission reached 40·4°. By this time the swelling had become exceedingly tender and hot to the touch. He began to vomit. His bowels had been kept open by means of castor oil. Free incisions were made into the swelling in the usual manner and fomentations were applied. The temperature came down by lysis and reached normal on the third day after operation. Fomentations were discontinued on the seventh day, and the man left hospital 19 days after operation and attended as an out-patient for a further 10 days. He denied having had any urethral infection, either recent or remote. On examining his urethra by the urethroscope, however, very definite granular patches could be seen in the mucous membrane, and his centrifugalised urine contained numerous "threads" and broken-down cells.

CASE 4.—An Egyptian, aged 28 years, was admitted in a very grave condition. Three days previously he had been taken ill suddenly with acute pain in the right inguinal region, vomiting, and shivering. His bowels had been constipated since the onset. On admission his temperature was 40·4° C., his pulse 144 and very thready, and his respirations 56. He was vomiting almost continuously, bringing up bile-stained fluid. His features were "drawn" and his eyes were sunken. The inguinal canal and scrotum on the affected side were occupied by an intensely tender, semi-fluctuating swelling. The skin over it was œdematous and red. The swelling was exposed and freely incised. Several of the abscess cavities contained greyish sloughs. The wound did not clean up so rapidly in this case, fomentations being required for 14 days. The granulating surface was then skin-grafted, and the man was discharged on the twenty-fifth day after operation. The temperature reached normal on the fourth day after operation and the patient's general condition rapidly improved. In this case there was a history of a urethritis contracted six months previously.

CASE 5.—A Burbereen, aged 32 years, was admitted after three days' illness. While waiting at his master's table he had been seized with sudden pain in the right inguinal canal. He was put to bed and vomiting set in and persisted till he came to the hospital. On admission his temperature was 40·2° C. and his pulse was 124. He looked very ill. There was a typical elastic swelling extending from the testis to the internal ring. This was exposed and treated by multiple incisions. The temperature reached normal on the fourth day after operation. Next day the left pampiniform plexus was found to be thrombosed. The temperature remained normal till the eighth day, when signs of suppuration began to appear on the left side. They became very marked by the eleventh day, when a rigor occurred, the temperature rising to 40·6°. The swelling was treated in exactly the same way as that on the right had been and the temperature had fallen to normal three days later. Both sides cleaned up rapidly and the man was discharged to the out-patient department on the twenty-second day after admission. No history of urethral discharge could be obtained in this case, but urinalysis and urethroscopic examination gave definite evidence of an old infection.

Throughout this paper I have carefully avoided the use of the word "gonorrhœa," because the acute urethritis met with in Egypt is not identical clinically with the affection so common in England. The acute symptoms are the same: bacteriological examination almost always shows the gonococcus, often in pure culture; yet among nearly 14,000 in-patients and an enormous number of out-patients I have only seen one case of fibrous stricture of the urethra. I have already remarked on the prevalence of urethral infections, so it is obvious that there is a difference, at present unexplained, between the types of the disease that occur in the two countries.

I wish gratefully to acknowledge the invaluable assistance of Dr. A. R. Ferguson, professor of pathology at the Cairo Medical School, in the preparation and examination of the sections.

Norwich.

ROYAL LONDON OPHTHALMIC HOSPITAL.—The third annual dinner of the past and present students of the Royal London Ophthalmic Hospital will take place at the Trocadéro Restaurant, Shaftesbury-avenue, London, W., on Wednesday, Feb. 10th, Sir Anderson Critchett, Bart., in the chair, at 7.45 P.M. Each student is entitled to introduce two guests. Tickets (price 10*s.* 6*d.* each, exclusive of wine) may be had on application to either of the honorary secretaries, Mr. Arnold Lawson, 12, Harley-street, W., and Mr. J. Herbert Parsons, 27, Wimpole-street, W.

INFANTILE SPLENIC ANÆMIA, WITH NOTES OF TEN CASES.

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In reading over the literature dealing with the anæmias of infancy one cannot but be impressed with the very great difference of opinion that exists regarding the etiology and pathogenesis of this group of diseases. Many of the writers, however, recognise that, when regarded from the point of view of their symptomatology, these anæmias may be grouped into several clinical types; though whenever the relationship of one type to another comes up for consideration disagreement is again at once apparent. Anæmia is a common symptom in childhood. It is a symptom which occurs in almost all the more chronic diseases and disorders of infancy, and it may be met with in every degree of severity. In a proportion of the cases there is enlargement of the spleen, especially in those which show the severer degrees of anæmia, though this is not always so. The size of the spleen, however, is a feature in anæmia to which much attention has been paid, and hence the anæmias of infancy have come to be divided, perhaps somewhat artificially, into two groups—namely, those with splenic enlargement and those without. Amongst the latter are classed most of the lesser forms of infantile anæmia. These are essentially secondary or symptomatic anæmias, secondary to a variety of causes, such as bad feeding, faulty assimilation, lack of fresh air, diarrhœa, intestinal worms, rickets, congenital syphilis, and repeated hæmorrhages. In such anæmias the red corpuscles average from 2,000,000 to 3,500,000 per cubic millimetre and the hæmoglobin index is low—from 0·6 to 0·7. A proportion of normoblasts are frequently to be found in stained films and most often there is some variation in the size and intensity of staining of the red cells. There is usually a slight leucocytosis—about 15,000 white corpuscles per cubic millimetre. The symptoms and blood picture will naturally depend on the severity of the anæmia, and this in turn on the severity of the conditions which produce it. The anæmia will be curable in so far as the conditions on which it depends are curable.

But it is with the anæmias associated with splenic enlargement that we are at present concerned, and of these three clinical types have been described, the chief point of distinction between them seeming to consist in the degree of leucocytosis that may happen to be present.

1. In the first type the blood picture is much the same as that in the splenic anæmia of the adult—that is, the white corpuscles are diminished instead of being increased in number and there is most often a relative lymphocytosis.

2. The second type differs from the above chiefly in that the leucopenia is replaced by a moderate leucocytosis of from 14,000 to 20,000 per cubic millimetre, and while some myelocytes are usually to be found in stained films the proportions of the various white cells are otherwise little altered. This is probably a severer variety of anæmia than Type 1, and it would seem to include most of the cases described under the term anæmia splenica infantum.

3. The third type is that described by von Jaksch under the name of anæmia infantum pseudoleukæmia. Here there is a still greater increase of white corpuscles—from 20,000 to over 100,000 per cubic millimetre. In a differential count there is almost always a definite proportion of marrow cells (up to 20 per cent.), and, generally, the variety of leucocytes is greater than is found in normal blood. Most often it is the lymphocyte that is present in largest numbers, but sometimes there is a very definite increase of the polynuclear cells.

Examination of the red blood corpuscles in these three types of splenic anæmia shows nothing distinctive; they have much the same characters as noted in the anæmias without splenic enlargement. The number averages about 2,500,000 per cubic millimetre, with a range of from 3,500,000 to less than 1,000,000 per cubic millimetre; and there is no recognised diminution corresponding to the increase of the white corpuscles in, for example, Types 2 and 3, other than that the severest anæmias are perhaps to be met with in those cases with the most marked leucocytosis. There need then be but little diminution of red cells, but in almost all the cases the hæmoglobin index is low—0·5 to 0·6. Nucleated red corpuscles are present, usually in proportion to the severity of the anæmia, and of these a proportion may be megaloblasts. In all these anæmias there is considerable variation in the size of the red cells and sometimes in the intensity with which they take up acid stains; in the severer degrees of anæmia polychromatophilia is also met with. Poikilocytosis is not so commonly present as in the anæmias of the adult.

The etiology of infantile splenic anæmia is in dispute, but one may say without much fear of contradiction that the same disorders and diseases as cause an ordinary secondary anæmia (without enlarged spleen) are also to be found in those cases where splenic enlargement is present. Recovery may take place in any of the types of infantile splenic anæmia, and in this respect they differ from the splenic anæmia of the adult, where the patient lives on an average little more than three years after the onset of symptoms. In the child splenic anæmia may last for many years, but during that time there may be much debility and ill health. When recovery does take place it is usually a very slow process, many months' treatment being required before improvement is at all apparent. When death occurs in many of the cases it seems to depend on the development of a broncho-pneumonia. In none of the types is there any distinctive lesion to be found post mortem and in particular it is to be noted that in the so-called anæmia infantum pseudoleukæmia there are none of the lesions characteristic of leukæmia.

The following ten cases which I have collected together will serve to illustrate most of the points I have just mentioned. And here I would like to express my indebtedness to Dr. J. Lindsay Steven and Mr. James Battersby—to the former for permission to include Cases 3 and 7 and to the latter who permits me to add Case 2 to this series. I myself am responsible for the differential blood counts in all the cases and for the histological examination of the tissues in the four cases that died.

CASE 1.—A man, now aged 22 years, first came under my care as an out-patient at the Glasgow Royal Infirmary in 1905, but previous to that he had been at least three times in hospital suffering from anæmia. The enlargement of the spleen seemed to date from infancy, for when the child was nine months old the mother noticed a "lump" in the left side projecting below the costal margin. At this time, however, there were no definite symptoms of illness and the general health remained fairly good till after an attack of measles, when the child was four years old. After this the swelling in the abdomen seemed to get larger; when six years old the anæmia was so severe that he was admitted to the Children's Hospital and remained there for nine months. At that time it was noted that the blood "had the characters of the splenic anæmia of the adult rather than of the anæmia of infancy." For the next seven years the child remained fairly well and was able to attend school, but subsequent to that he suffered from weakness, breathlessness, and swelling of the feet. He had then to give up doing any form of work and was again (March, 1903) admitted to hospital. This time he was under treatment for three months and improved very greatly, gaining 10½ pounds in weight. But he was able to work for only six months, for the symptoms of anæmia appeared and he was again in hospital (March, 1904) for a period of two months. After this he worked for nine months, but in May, 1905, he was back to hospital suffering from his old complaint. For the past three years, however, he has enjoyed good health and has been able to do a full day's work as fireman on a steam engine. He now weighs 9 stones, and though thin is fairly well developed and fairly well nourished. He shows no rachitic deformities and no appearance of anæmia. The spleen during all these years of illness seems to have been greatly enlarged. In March, 1904, it extended "3½ inches below the umbilicus" and in May, 1905, to "1½ inches from the symphysis pubis." At present (July, 1908) it extends downwards to the anterior superior spinous process of the ilium and forwards to half an inch from the middle line. At no time was the liver noted as being enlarged. The condition of the blood was as follows:—

Date.	Red corpuscles. Per c.mm.	White corpuscles. Per c.mm.	Hæmoglobin.
April, 1903	3,860,000	3,500	"Greatly reduced."
April 5th, 1904	2,960,000	3,100	—
,, 27th, ,,	3,200,000	2,420	—
May 16th, 1905	3,500,000	6,875	35 per cent.
June 3rd, ,,	4,045,000	5,600	35 ,, ,,
June 26th ,,	4,680,000	5,000	50 ,, ,,
July 12th, 1908	5,500,000	8,550	100 ,, ,,

On examining stained films there was found in 1903 a marked poikilocytosis with considerable variation in the size of the various corpuscles. The red cells stained very faintly, many being only represented by a rim of oxyphile stain at the periphery of the disc. In May, 1905, there was a more moderate poikilocytosis but variation in the size and intensity of staining of the individual red cells; there was only a very small proportion of normoblasts. In July, 1908, the films showed the

red cell normal in size and staining reaction. Of the white corpuscles the following are the proportions:—

	Polynuclears.	Small lymphocytes.	Hyaline and transitionals.	Eosinophiles.
	Per cent.	Per cent.	Per cent.	Per cent.
April 27th, 1904	50	40	10	—
May 16th, 1905	55	33	10	2
July 12th, 1908	61	34	3	2

CASE 2.—This patient, a female, first came under my observation in January, 1905, when she was two years of age. She seemed to have been a healthy child up to the age of 16 months when she became fretful, disinclined to play, and generally out of sorts. For eight months she had remained in that condition. Shortly after the onset of these symptoms the abdomen was noted to be swollen, and a medical man who was consulted said that the spleen was enlarged. There never had been diarrhœa and only very occasionally any vomiting. The father, mother, two brothers, and two sisters were alive and well. Another brother died, aged seven years, after suffering for three years with vomiting and an enlarged spleen; he died during an attack of vomiting. On examining the child she was seen to be well nourished, but the skin and mucous membranes were extremely pale. Most of the teeth were present and in a good state of preservation. There were no signs of rickets. The heart and lungs were normal. The abdomen was distended and both liver and spleen were greatly enlarged, the latter extending to the anterior superior spinous process, the former almost to the level of the umbilicus. The examination of the blood was as follows:—

	Red cells.	White cells.	Hæmoglobin.
	Per c.mm.	Per c.mm.	Per cent.
Jan 25th, 1905	3,900,000	2800	35
Feb. 12th ,,	3,500,000	7000	38

Of the white cells 58 per cent. were polynuclears, 34 per cent. lymphocytes, 7 per cent. hyaline and transitionals, and 1 per cent. eosinophiles. There were no nucleated reds and no marrow cells. The red corpuscles showed a moderate poikilocytosis, with considerable variation in the intensity of staining and size of the individual cells, some of the cells seeming large enough to be regarded as megalocytes and others quite as small as microcytes. After two months' treatment the child's condition was greatly improved, the lips and cheeks being well coloured, but the liver and spleen were as large as formerly. She was seen again last summer (June, 1908)—i.e., after an interval of over three years. The blood was then practically normal though there was still a slight leucopenia. The count was as follows: red corpuscles, 4,000,000 per cubic millimetre; white corpuscles, 4687 per cubic millimetre; and hæmoglobin, 95 per cent. The differential estimation of the white cells was: polynuclears, 45 per cent.; lymphocytes, 47 per cent.; hyaline cells, 4 per cent.; eosinophiles, 2 per cent.; and mast cells, 2 per cent. There were no marrow cells. The red corpuscles were of uniform shape and staining, but there was some variation in the size of the individual cells. There were no nucleated red cells. The child is now a picture of health, fat, well nourished, with rosy cheeks and red lips. But the edge of the liver is palpable two inches below the right costal margin and the spleen extends downwards to one inch below the level of the umbilicus.

CASE 3.—This patient, aged 21 months, was first seen on May 5th, 1905, and died five days later with areas of pneumonic consolidation in both lungs. No satisfactory history of the illness could be obtained in this case. On examination the child was seen to be greatly undersized

Table Showing Ten Cases of Infantile Splenic Anæmia.

No. of case.	Age.	Date.	No. of red corpuscles per c.mm.	Hæmoglobin percentage.	No. of white corpuscles per c.mm.	Percentage of polynuclears.	Percentage of lymphocytes.	Percentage of hyalines and transitionals.	Percentage of myelocytes.	Percentage of eosinophiles.	No. of normoblasts per 100 W.B.C.	No. of megaloblasts per 100 W.B.C.
1*	6 years.	1892.	—	—	—	—	—	—	—	—	—	—
	17 ,,	April, 1903.	3,860,000	"Greatly reduced."	3,500	—	—	—	—	—	—	—
	18 ,,	April 5th, 1904.	2,960,000	—	3,100	—	—	—	—	—	—	—
		,, 27th, ,,	3,200,000	—	2,420	50	40	10	—	—	—	—
	19 ,,	May 16th, 1905.	3,500,000	35	6,875	55	33	10	—	2	Small proportion.	—
		June 26th, ,,	4,680,000	50	5,000	—	—	—	—	—	—	—
	22 ,,	July 12th, 1908.	5,500,000	100	8,550	61	34	3	—	2	0	0
2†	2 ,,	Jan. 25th, 1905.	3,900,000	35	2,800	58	34	7	0	1	0	0
		Feb. 12th, ,,	3,500,000	38	7,000	—	—	—	—	—	—	—
	5 ,,	June, 1908.	4,000,000	95	4,687	45	47	4	0	2	0	0
3‡	1⅘ ,,	May, 1905.	—	—	11,000	35	50	14	0	1	3	0
4§	1⅔ ,,	1905.	1,700,000	—	13,400	32·5	54	13·5	0	—	4	0
5	1⅘ ,,	May 3rd, 1905.	3,800,000	—	12,000	64	24	12	0	—	3	0
		,, 19th, ,,	3,695,000	37	19,000	—	—	—	—	—	—	—
	5 ,,	July 2nd, 1908.	4,800,000	56	8,222	41·6	48·8	8	0·4	1·2	2	—
6‖	1⅔ ,,	June 1st, 1907.	1,650,000	25	18,312	31	44	11	8	5	7	3
		,, 18th, ,,	2,130,000	20	15,900	—	—	—	—	—	—	—
		July 4th, ,,	1,700,000	20	12,792	—	—	—	—	—	—	—
		August 6th, ,,	3,000,000	15	9,330	—	—	—	—	—	—	—
		Sept. 4th, ,,	2,764,000	35	—	32	50	9	8	1	1	—
		Oct. 3rd, ,,	3,500,000	40	5,000	46	44	7	2	1	1	—
		March 16th, 1908.	4,290,000	86	6,400	—	—	—	—	—	—	—
7¶	1⅓ ,,	April, 1905.	1,600,000	—	60,000	34·5	44	8	9·5	4	2	2
8**	1⅓ ,,	July 3rd, 1908.	4,800,000	85	22,500	35	49	7·5	5·5	3	—	—
		,, 10th, ,,	5,100,000	95	28,125	—	—	—	—	—	—	—
		,, 17th, ,,	4,487,000	75	30,837	38	41·5	5·3	7·4	7·2	1	1
		,, 24th, ,,	4,472,000	70	30,000	—	—	—	—	—	—	—
9††	1⅓ ,,	July 19th, 1908.	4,648,000	70	28,225	22	65	4	5	5	1	1
10‡‡	⅞ ,,	April, 1907.	2,088,000	18	96,144	14	66	11	6	2	59	3

* The blood had the characters of the splenic anæmia of the adult. The splenic enlargement dated from infancy. † Complete recovery. ‡ Died. Nothing distinctive post mortem. § Died. Nothing distinctive post mortem. ‖ Made complete recovery. ¶ Died. Nothing distinctive post mortem. ** Still under treatment. †† Under observation. ‡‡ Died. Infiltration of mononuclear cells into liver and kidneys.

and in a state of extreme emaciation. The pallor of the skin and mucous membranes was very marked. The anterior fontanelle was widely open and there was some beading of the ribs, but no other signs of rickets. There were eight teeth in fair preservation. The abdomen was enlarged and both liver and spleen were readily palpable below the costal margin, the spleen extending to within three-quarters of an inch of the anterior superior spinous process of the ilium. The axillary, inguinal, and popliteal glands were palpable but not very definitely enlarged. The temperature remained normal for the five days the child was under observation. There were 11,000 white corpuscles per cubic millimetre, made up as follows: polynuclears, 35 per cent.; lymphocytes, 50 per cent.; hyaline and transitionals, 14 per cent.; and eosinophiles, 1 per cent. There were three normoblasts to 100 white cells. A count of the red cells was not made in this case, but it must have been very low judging from the pallor of the skin and mucous membranes. Films showed a moderate poikilocytosis but considerable variation in the size of the red cells, many being much smaller and a few rather larger than normal. There was also considerable variation in the staining reaction of the red cells, some being very pale and others taking the stain with considerable intensity. Neither megaloblasts nor marrow cells were to be found.

At the post-mortem examination the heart showed no signs of valvular or other disease. In the lungs there were patches of pneumonic consolidation in the right lower and left upper and lower lobes. The liver (7½ ounces) was congested, as was also the spleen (1 ounce). In the right kidney there were a number of wedge-shaped hæmorrhages suggesting infarctions. The mesenteric glands were slightly increased in size. The bone marrow of the right forearm bones was red and semi-fluid. On microscopic examination there was seen to be but slight fatty change in the liver cells and no definite increase of the connective tissue in the portal areas. The spleen pulp was much congested and possibly there was a slight fibrosis but this was not very definite. Except for marked congestion the kidneys seemed healthy. The consolidated areas of the lung presented the appearances of a fairly typical broncho-pneumonia. The heart muscle seemed healthy. The thymus gland showed considerable increase of the interlobar and interlobular connective tissue but there was no proper differentiation into cortex and medulla; the gland seemed encroached on by this fibrous tissue, but the medulla seemed to have suffered more thereby than the cortex. The bone marrow presented much the same appearances as in Case 7. There was, however, even a larger proportion of lymphocytes throughout the section and the aggregations of lymphocytes were also well marked. The prevailing cell nevertheless was the finely granular marrow cell. The number of giant cells was probably less than in the case just referred to.

CASE 4.—A girl, aged 14 months, was only under observation for 48 hours when she died with a pneumonic condition of the lungs. She was a fairly well nourished child, but there were signs of rickets in the curving of the bones of the legs as well as in the beading of the ends of the ribs. The skin and mucous membranes were exceedingly pale. There was no history obtained regarding the mode of nourishment of the child. Both liver and spleen were palpable below the costal margins. Examination of the blood showed the red corpuscles to number 1,700,000 per cubic millimetre and the white corpuscles 13,400 per cubic millimetre. Of the white cells 32·5 per cent. were polynuclears, 54 per cent. lymphocytes, and 13·5 per cent. hyaline and transitional cells. There were four normoblasts to 100 white cells, but neither marrow cells nor megaloblasts were found. The red corpuscles showed slight poikilocytosis and a certain amount of variation in the size of the individual cells, but few were large enough to be classed as megalocytes. There was slight variation in the intensity with which the cells stained with eosin, some being very pale and others quite up to the normal standard.

At the post-mortem examination the upper and middle lobes of the right lung were found to be consolidated, and there were several areas of consolidation scattered through the upper two-thirds of the left upper lobe. Both lower lobes were congested. The heart was pale but with no appearance of mottling. The valve segments were normal. The liver (13½ ounces) was congested and showed cloudy swelling. The spleen (1¾ ounces) was enlarged and congested. The kidneys were pale. The thymus was also pale but of about normal size. The stomach and intestines, beyond some congestion of their mucous membranes, showed no abnormality. The bone marrow of the right femur was red. On microscopic examination the liver cells presented the appearance of slight fatty degeneration, but there was no definite increase of the connective tissue in the portal areas. In the spleen there seemed a slight fibrosis and the Malpighian bodies were about normal in size. The kidneys were normal. The heart muscle, stained with osmic acid, showed a slight fatty change. The consolidated lung had the characters of a fairly typical broncho-pneumonia. The mesenteric glands gave the appearance of considerable activity, for there was no proper differentiation into cortex and medulla and the sinuses were somewhat over-run with lymphocytes. In the thymus gland there was considerable increase of the interlobar and interlobular connective tissue. But while in this respect there seemed to be an atrophy of the gland, the parenchyma, on the other hand, showed no proper differentiation into cortex and medulla and so suggested an over activity of the gland. The concentric corpuscles of Hassall seemed larger and more numerous than normal. The marrow had much the same characters as in Case 7. There seemed, however, to be a larger proportion of lymphocytes and in places these cells were collected together to form little masses, giving something of the appearance of the Malpighian bodies in the spleen. The number of giant cells, too, seemed greater than in Case 7.

CASE 5.—A girl, aged 20 months, was seen by me several times during the month of May, 1905. The child was born at full time and at birth was apparently quite healthy. The mother, however, had not been robust during the later months of the pregnancy. There had been two miscarriages after the birth of the first child but there were no appearances of syphilis in any of the children. There were two other children, the eldest being four years old and strong and healthy; the youngest was a babe of one month. The food for the first five weeks had consisted entirely of cow's milk. Then Savory and Moore's food had been added, and from the third month onwards oat-flour porridge. The child remained fairly healthy till she was eight months old, but from that time she had ceased to thrive and had been getting progressively paler and weaker. Growth seemed at a standstill and the abdomen had been increasing in size. She had been taking her food fairly well at this time, and only during the last two months had there been any vomiting, and this not oftener than three times a week. On one occasion there was some clotted blood in the vomited matter and on another occasion there was a not very copious bleeding from the nose. There had been a good deal of sweating about the head, especially at night, for some months past. On examination the child was seen to be undersized for her age. The skin and mucous membranes were exceeding pale. The anterior fontanelle was wide open and there was slight enlargement of the ends of the long bones, but little other rachitic deformity. There were five teeth in all, one of which was considerably decayed. The abdomen was protuberant. The liver was palpable below the costal margin, while the spleen extended almost to the crest of the ilium and forwards to within one and a half inches of the umbilicus. The heart and lungs were normal. The examination of the blood was as follows:—May 3rd, 1905, red corpuscles, 3,800,000 per cubic millimetre; and white corpuscles, 12,000 per cubic millimetre. May 19th, red corpuscles, 3,695,000 per cubic millimetre; white corpuscles, 19,000 per cubic millimetre; and hæmoglobin, 37 per cent. A differential count made on May 5th gave these proportions: polynuclears, 64 per cent.; lymphocytes, 24 per cent.; and large hyalines and transitionals, 12 per cent. There were three normoblasts to 100 white cells. Films showed a moderate poikilocytosis but a considerable variation in the size of the red cells, many being much smaller than normal and some larger, though almost none sufficiently large to be regarded as megalocytes. There were no megaloblasts and no marrow cells found in the films. There was considerable variation in the intensity with which the red cells stained, some being darker and others much fainter than normal. Polychromatophilia was not in evidence.

This child was seen again on July 2nd, 1908. She was then five years old and stout and well nourished, but small for her age, being not so tall as her sister who is two years younger. There were now definite signs of rickets in the presence of marked genu valgum. The mucous membranes were still rather pale. The child, the mother said, was pale and very delicate till three years old. Since then she had been fairly robust and took her food well. The spleen was still much enlarged, extending downwards to ¾ inch from the level of the umbilicus. The liver was not palpable. Examination of the blood (July 2nd, 1908) gave the following result:—Red corpuscles, 4,800,000 per cubic millimetre; white corpuscles, 8222 per cubic millimetre; and hæmoglobin, 56 per cent. Films showed a moderate poikilocytosis with some variation in the size and intensity of staining of the individual cells; as a rule they stained much too faintly. There were two normoblasts to 100 white cells. The proportions of the white corpuscles were as follows:—Polynuclear cells, 41·6 per cent.; lymphocytes, 48·8 per cent.; hyaline and transitionals, 8·0 per cent.; eosinophiles, 1·2 per cent.; and marrow cells, 0·4 per cent.

CASE 6.—A girl, aged 14 months, was under treatment in my wards of the Glasgow Royal Infirmary from May 31st to Oct. 14th, 1907. The child was born at full time and the labour was normal in every respect, but she was a very small child at birth. She was fed on the breast for the first fortnight and after that on cow's milk (undiluted), though she seems to have had in addition the "run of the house." There had never been diarrhœa, but the mother said there had been a slight cough almost since birth. It is not certain when the anæmia first appeared, but it had only been noted for about a fortnight before admission to hospital. The father and mother were healthy. There were two other children, the first was stillborn and the other, very small at birth, only lived one week. The mother had had no miscarriages. On admission the child seemed very small for her age; she weighed 15 pounds. The skin and mucous membranes were exceedingly pale, and there was a slight purpuric rash on the back and abdomen. There were definite signs of rickets in the presence of enlargement of the ends of the ribs and of the long bones of the arms and legs. The anterior fontanelle was still unclosed. The abdomen was enlarged and both liver and spleen were palpable below the costal arch, the former extending one inch below the right margin and the spleen as far down as the crest of the ilium. There was no evidence of enlargement of lymphatic glands. There were some small moist râles at the base of the right lung behind, but otherwise the lungs seemed healthy. The heart was normal. Examination of the blood gave the following results:—

	Red corpuscles.	Hæmoglobin.
June 1st, 1907	1,650,000 per c.mm.	25 per cent.
June 18th, ,, ...	2,130,000 ,, ,, ...	20 ,, ,,
July 4th, ,, ...	1,700,000 ,, ,, ...	20 ,, ,,
August 6th, ,, ...	3,000,000 ,, ,, ...	15 ,, ,,
Sept. 4th, ,, ...	2,764,000 ,, ,, ...	35 ,, ,,
Oct. 3rd, ,, ...	3,500,000 ,, ,, ...	40 ,, ,,
March 16th, 1908	4,290,000 ,, ,, ...	86 ,, ,,

Stained films were examined on June 4th, Sept. 19th, and Oct. 11th. On each occasion there was a moderate poikilocytosis, with considerable variation in the size of the individual cells as well as in their staining reaction; a proportion stained a leaden tint (polychromatophilia). On June 4th there were 10 nucleated red cells to 100 white cells and of the former three might be regarded as megaloblasts. On each of the other two occasions there was 1 normoblast to 100 white corpuscles.

White corpuscles.

June 1st, 1907 ...	14,976 per c.mm.	July 19th, 1907 ...	14,500 per c.mm
,, 2nd ,, ...	15,900 ,,	Aug. 6th ,, ...	9,330 ,,
,, 3rd ,, ...	18,312 ,,	Oct. 3rd ,, ...	5,000 ,,
,, 18th ,, ...	15,900 ,,	March 16th, 1908	6,400 ,,
July 4th ,, ...	12,792 ,,		

The proportions of the various white cells were as follows:—

	June 4th. Per cent.	Sept. 19th. Per cent.	Oct. 11th. Per cent.
Polynuclears	31	32	46
Large hyalines and transitionals...	11	9	7
Small lymphocytes	44	50	44
Marrow cells	8	8	2
Eosinophile cells	5	1	1
Mast cells	1	0	0

During the four and a half months the child was in hospital the improvement, though considerable, was exceedingly slow. The gain in weight in that time was only 3 pounds, but the child looked healthier and the muscles felt firmer, and this in spite of the fact that the feeding was most liberal (three pints of milk and the juice of half a pound of raw beef in the 24 hours). The spleen, too, had lessened considerably in size, reaching on Oct. 14th to rather above the level of the umbilicus. The liver at this time extended about half an inch below the right costal margin.

On dismissing the child from hospital the mother was given very definite instructions as regards the feeding of her child and as to the necessity of keeping her in the open air. And the result was eminently satisfactory, for in the next five months the improvement was very great indeed. The gain in weight at the end of that time was over 14 pounds, and the spleen had lessened so much in size that it extended to only three quarters of an inch below the costal margin; the lower edge of the liver was no longer palpable. The improvement in the condition of the blood has been noted.

CASE 7.—A girl, aged 13 months, was under observation from April 15th to 23rd, 1905, on which latter date she died. The child was fed on the

breast till 10 months old and she seems to have been in excellent health up to the end of her first year. But from that time onwards she became progressively paler and swellings appeared in the groins. Latterly she was so listless she could scarcely hold up her head and she seemed inclined to doze most of the time. There were two other children in the family, a boy, aged seven years, and a girl, aged four years, both alive and well. Another girl, when aged four years, and a boy, aged six months, had died from "measles and whooping-cough." On examination the child was seen to be fairly well nourished, but the pallor of the skin and mucous membranes was extreme. There was slight enlargement of the sterno-mastoid, submaxillary, axillary, and inguinal glands, the largest being of the size of a horsebean. The teeth were in good condition, but there was slight rachitic deformity and the anterior fontanelle was still unclosed. The abdomen was unduly prominent and both liver and spleen were palpable below the costal arch; the spleen extended down as far as the crest of the ilium. The heart and lungs were normal. The blood count was as follows: red corpuscles, 1,600,000 per cubic millimetre; and white corpuscles, 60,000 per cubic millimetre (four days later, 30,600). Of the white corpuscles 34·5 per cent. were polynuclears, 8 per cent. hyaline and transitionals, 44 per cent. lymphocytes, 9·5 per cent. marrow cells, and 4 per cent. eosinophiles. There were two normoblasts and two megaloblasts to 100 white corpuscles. There was only a slight degree of poikilocytosis and only slight variation in the size of the individual cells. The intensity of the staining, however, varied considerably, some cells staining at the periphery only, while others stained well throughout. In the seven days the child lived while under observation there was nothing fresh to note; the temperature kept normal and the bowels regular, the motions being normal in appearance.

On post-mortem examination the heart was seen to be pale but there was no mottling visible. The epicardium was studded with small ecchymoses. The valve segments were normal. The lungs were pale, excepting the lower lobe of the left lung which was œdematous and congested so that it would not float in water. The thymus was pale and very small. The liver (14½ ounces) was large and pale, with very evident fatty degeneration. The spleen (3½ ounces) was large and of a deep pink colour. The kidneys, suprarenals, and pancreas all seemed healthy. The stomach was of normal size and presented no abnormality of its mucous membrane. In the intestines Peyer's patches as well as the solitary follicles were swollen, but there was no ulceration. The mesenteric glands were considerably enlarged, but the bronchial and mediastinal glands seemed normal in size. The bone marrow from the shaft of the femur was red in colour. On microscopic examination there was seen to be a very marked fatty degeneration of the liver cells, especially those at the centre of the lobules. There was also a slight increase of the connective tissue of the portal areas but confined to these areas and in no way amounting to a cirrhosis of the liver. There was only a slight hæmosiderin deposit, confined almost entirely to the portal areas. The spleen showed a slight fibrosis but the Malpighian bodies were about normal in size. The heart and kidneys seemed normal. The mesenteric glands had the appearances of a general hypertrophy, there being no proper differentiation into cortex and medulla, the sinuses, indeed, being overrun with lymphocytes. The bone marrow of the shaft of the femur was examined in sections and as films. In sections it was seen to be a dense cellular marrow with no appearance of fat cells. It had the characters of the leucoblastic rather than an erythroblastic marrow, the prevailing cell being the finely granular marrow cell, with but few aggregations of the lymphocytes. The nucleated red cells were normoblasts and the proportion of giant cells was small.

CASES 8 AND 9.—These patients were twin sisters, aged 16 months. The former was admitted to my wards on June 30th, 1908, on account of swelling of the abdomen and general weakness; the latter I asked the mother to bring to the hospital for examination and I found her suffering with much the same symptoms as her sister. These two children were of the same size at birth, only the patient in Case 8 was rather the thinner of the two. For the first 11 months they were fed on the breast only and they seemed to thrive quite well, but at the end of three months it was apparent that the patient in Case 8 was not doing so well and not growing as large as the patient in Case 9. At 11 months the patient in Case 9 was weaned and fed on cow's milk and oatmeal flour. The patient in Case 8 also got the oatmeal but being delicate she was kept on the breast till she was about 15 months old. Neither seems to have got much into the open air but the patient in Case 8 much more than her sister. Both had measles when ten months old but neither seemed to have been specially ill. The mother dates the beginning of the illness in Case 8 from the age of 14 months, when the child became cross, restless, and was sleeping badly. It was at this time that the abdomen was noted to be swollen and it seemed painful on pressure. The swelling of the abdomen had increased since then and the child otherwise had emaciated somewhat. The bowels as a rule had been constipated and the only history of diarrhœa was for a period of about ten days during the convalescence from measles. There had been no diarrhœa in Case 9. The father and mother were alive and well. There were no other children. The mother had had no miscarriages. Both children were thin and small for their age, but Case 8 was distinctly the smaller of the two. She weighed 13½ pounds as against 18 pounds for her sister. In both there were signs of rickets in the presence of enlargement of the ends of the long bones. The anterior fontanelle was not closed in either. The mucous membranes were well coloured in both, and each had several teeth in good state of preservation. The spleen in Case 9 extended to the level of the umbilicus; in Case 8 to one inch below that point. The liver was not enlarged in either. Examination of the blood gave the following results:—

Case 8.	Red corpuscles. Per c.mm.	White corpuscles. Per c.mm.	Hæmoglobin. Per cent.
July 3rd, 1908	4,800,000	22,500	85
,, 10th, ,, ...	5,100,000	28,125	95
,, 17th, ,, ...	4,487,000	30,837	75
,, 24th, ,, ...	4,472,000	30,000	70
Case 9.			
July 19th, 1908	4,648,000	28,225	70

Films gave almost exactly the same picture in the two cases. There was but slight poikilocytosis but considerable variation in the size of the red cells, some being distinctly larger than normal and many much smaller. Certain cells showed polychromatophilic staining, and in Case 9 pigmentary degeneration was seen in some of the cells. There were from two to three nucleated reds to 100 white corpuscles, and at least half of these nucleated reds were megaloblasts. The following were the proportions of the various white cells:—

Case 8.	Polynuclears.	Lymphocytes.	Hyaline and transitionals.	Marrow cells.	Eosinophiles.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
July 3rd	35·0	49·0	7·5	5·5	3·0
,, 17th	38·6	41·5	5·3	7·4	7·2
Case 9.					
July 19th	22·0	65·0	4·0	5·0	5·0

CASE 10.—A girl, aged seven weeks, was under observation for only six days, when she died on April 1st, 1907. She was a twin child and at birth seemed quite healthy but since then she had never thriven, for while to begin with she was the larger of the twins, on admission to hospital she weighed 4½ pounds, only half as much as the other child. She had been fed on breast milk and had always taken it well. She at no time had been unduly fretful. When four weeks old the mother noticed that the abdomen was considerably swollen and she thought it was due to flatulence. The bowels had always been rather loose but the motions invariably contained bile. There were six other children in the family. The first was stillborn at full time. The second was alive and very healthy. The third died, aged one year and ten months, from convulsions. The fourth was stillborn at seven months. The fifth died from congestion of the lungs when eight months old. The sixth also died from congestion of the lungs when a year old. The father was alcoholic and the mother had had a severe hæmorrhage during the third month of this last pregnancy, but there was nothing else of importance in the family history. On examining the child it was seen to be exceedingly small, puny, and ill nourished. The skin of the face and of the body generally was loose and wrinkled and had something of the parchment-like appearance. There were no abrasions of the skin or mucous membrane visible, and no desquamation unless a little over the scalp. The abdomen was markedly distended. Both spleen and liver were greatly enlarged, the former extending to the crest of the ilium and the latter to an inch below the umbilicus. The heart and lungs seemed normal and there was no sign of hæmorrhage into the skin or from any mucous surface. The blood count was as follows: red corpuscles, 2,088,000 per cubic millimetre; white corpuscles (including nucleated reds), 95,144 per cubic millimetre; and hæmoglobin, 18 per cent. On examining films there were seen to be a moderate poikilocytosis and considerable variation in the size of the different red cells. A proportion were larger than normal—some as large as megalocytes, but more were nearer the size of the microcyte. There was also a large number of corpuscles showing all shades of polychromatophilic staining, and in some others there were spots of pigmentary degeneration. The outstanding feature of the film, however, was the very large number of nucleated red cells, these forming 39 per cent. of all the nucleated cells present. About 5 per cent. of these nucleated red corpuscles might be regarded as megaloblasts. The following were the proportions of the various white corpuscles: polynuclear cells, 14 per cent.; small lymphocytes, 66 per cent.; hyaline and transitional cells, 11 per cent.; marrow cells, 6 per cent.; eosinophile cells, 2 per cent.; and mast cells, 1 per cent. There were 62 nucleated red cells to 100 white cells. There was nothing of special interest to note during the six days the child lived after admission to the ward. The bowels moved regularly and the motions were normal in appearance. The milk, however, was not well taken and death was apparently due to inanition.

At the post-mortem examination there was no definite evidence of rickets, syphilis, or tuberculosis. The heart was pale but otherwise normal. In the right lung there was an area of broncho-pneumonia along its posterior border and similar but smaller areas were seen scattered through the left lung. The liver (5½ ounces) was large, firm, of a yellowish colour, with patchy areas of congestion. The spleen (4½ ounces) was large, firm, and congested. The kidneys, adrenals, pancreas, and stomach were all pale but otherwise seemed healthy. There was no notable enlargement of any of the lymphatic glands. On microscopic examination the liver showed a fairly marked fatty degeneration of its parenchyma. There was a large excess of leucocytes in the blood and the capillaries were distended with blood. Scattered over the section were groups of leucocytes the large majority of which were mononuclear. The appearance generally was somewhat suggestive of what a syphilitic monocellular cirrhosis might be in an early stage of that disease, but the spirochæta pallida was not obtained on appropriate staining. There was no hæmosiderin reaction. In the spleen the pulp was congested and many of the sinuses were packed with white corpuscles. There was possibly a slight fibrosis and there seemed to be multiplication of the endothelial cells. The Malpighian bodies were not increased in size. The kidneys showed the same infiltration with round cells as the liver. The cells were mostly lymphocytes but polynuclear and eosinophile cells were also present. The infiltration was chiefly round the vessels and was very marked in places. The lymphatic glands were not examined microscopically. The lungs presented the characteristic appearance of broncho-pneumonia. The marrow was definitely leucoblastic, more so than in Cases 3, 4, and 7. It was not, however, a lymphoid marrow though it did contain a considerable proportion of lymphocytes. A number of the nucleated red corpuscles were megaloblasts and many of these, as well as of the normoblasts, showed a pigmentary degeneration of their plasma.

Of these 10 cases the first two may be regarded as examples of the first clinical type to which I have already referred. Case 1 is now 22 years of age and in good health, but from the age of four till he was 19 he had been always more or less anæmic and never in robust health, as shown by the number of times he was in hospital. The blood in this case was not examined in infancy, but from the sixth year onwards till three years ago there was a leucopenia every count that was made; now the blood is normal but the enlargement of the spleen persists. Case 2 also had a

leucopenia when under observation in 1905, and even now, when there is no anæmia and the child is apparently in the best of health, a leucopenia still exists. It may be here noted in passing that of the other cases in the one (Case 6) that made the best recovery the leucocytosis of 18,000 ultimately gave place to a leucopenia which, as may be seen, lasted for at least five months. In Case 5, which is now practically well, the leucocytes are about normal.

The second clinical type is represented by Cases 3, 4, 5, and 6—that is, cases with a leucocytosis of from 11,000 to 19,000; and the third type will include Cases 7, 8, 9, and possibly 10, all with a leucocytosis of over 25,000. This, however, is clearly a most unsatisfactory manner of grouping the cases, for the blood picture in Case 6 is much closer to that of Case 7 than to that of Cases 3 and 4, and yet for lack of a few thousand leucocytes it falls to be included with the latter. But at the same time one must admit that the blood of Cases 6, 7, 8, and 9 presents some notable differences from that of Cases 3, 4, and 5, and particularly in regard to the number of myelocytes and megaloblasts that were present in the former. Whether this is a point of any consequence may be considered later. As to Cases 8 and 9 it may be objected that they should not be included in this series, as examination of their blood shows no anæmia in either of them. But, on the other hand, the general aspect of the children, the enlarged spleen, the leucocytosis of 30,000, with the proportion of myelocytes and megaloblasts, associate them so closely with Cases 6 and 7 that it seemed of interest to add them to the list. They at least show that this form of leucocytosis is not dependent on the anæmia and that it may be produced by causes other than those that determine the diminution of red corpuscles.

The diagnosis in Case 10 has been a matter of some difficulty. From the examination of the blood while the child was alive I was disposed to regard it as a case of von Jaksch's splenic anæmia, with a very primitive blood, depending in part on the age of the child, for she was only seven weeks old. But the infiltration of mononuclear cells into the liver and kidneys which was met with on microscopic examination suggested that the case should really be regarded as an early stage of lymphatic leukæmia. These infiltrations, especially in the liver, certainly presented much the appearance that one sees in congenital syphilitic cirrhosis of the liver, and hence we had to consider the possibility of the case being one of anæmia associated with, and perhaps dependent on, the syphilitic toxin. Staining for the spirochæta pallida has, however, been negative, and so I am disposed to regard the case as one of leukæmia. Professor Muir has been good enough to examine the sections in this case and he is of opinion that, from the histological point of view, it is really a leukæmia, in spite of the absence of any considerable lymphoid infiltration of the bone marrow or enlargement of lymphatic glands. But even if this Case 10 be a lymphatic leukæmia it is of interest to add it to this series, for clinically, at least, it had much the same characters as Cases 7, 8, and 9; and apart from the very large numbers of nucleated red corpuscles the proportions of the other nucleated cells were much the same as in these three cases. I do not wish by this to suggest that lymphatic leukæmia and von Jaksch's anæmia are but different phases of the same disease but simply to draw attention to a clinical resemblance between them as shown by the above cases.

In considering the etiology of infantile splenic anæmia the only aid we can extract from these ten cases is of an entirely negative kind, for there seems to be no constant factor in any number of them to which one could attribute the anæmia and splenic enlargement. In only one (Case 8) was there a history of diarrhœa, and this of not more than ten days' duration. A large proportion of the cases were fed on the breast, so that artificial feeding cannot be blamed for the illness in any considerable number of them. In Cases 1, 8, and 9 there was a history of measles, but with Case 1 the "lump" in the abdomen was noted before the onset of this fever. In Cases 8 and 9 there was apparently a family tendency to splenomegaly, as these children were twin sisters and both affected; also with Case 2 there was a history of another child having died with an enlarged spleen. In Case 3 the child was small and greatly emaciated and the anæmia was probably just a symptom of the marasmus, brought on possibly by unsuitable or insufficient food. In Cases 4, 5, 6, and 7 there was no obvious cause for the anæmia unless rickets, signs of which were present in all of them as well as in Cases 3, 8, and 9. But in spite of the rickets there was no anæmia in Cases 8 and 9, and Dr. Leonard Findlay tells me that he has just completed an inquiry into the state of the blood in 30 cases of uncomplicated rickets and he finds that the number of red corpuscles and the percentage of hæmoglobin are distinctly above rather than below the reputed normal of infancy and as verified by him in 12 control examinations that he has made in healthy children. (The leucocytosis in the 30 rachitic cases ranged from 7000 to 18,000.) Rickets may therefore predispose to anæmia in the same way that it seems to predispose to a catarrhal condition of mucous membranes, but it cannot be held to be the exciting cause of the anæmia. We may say, then, that from the clinical point of view at least, these cases, as well as many others, support the view that there is no specific and constant factor at work in the production of infantile splenic anæmia. Neither does the histological examination of the tissues in the cases that died help us much as regards the etiology or pathogenesis of the anæmia. In neither liver nor spleen was there any change in any way distinctive, at least in Cases 3, 4, and 6, and in particular there was no evidence of any considerable deposit of iron pigment in either organ. The lymphatic glands showed signs of an undue activity but this may be met with in other conditions. The bone marrow was exceedingly cellular and perhaps more leucoblastic than normal, but that is as one expects it in any case with a leucocytosis. Finally, there was nothing to distinguish the tissues from cases (3 and 4) with a moderate leucocytosis from those of Case 7 with a leucocytosis of 60,000.

What, then, is the cause of infantile splenic anæmia? What is its pathogenesis? Is it a secondary anæmia, secondary to a variety of causes, or is it, or any of its varieties, a primary anæmia due to some specific toxin? In trying to answer these questions we have unfortunately little to go upon. If it is a primary anæmia we have no direct proof of it, for the toxin has not been isolated, neither has the disease been produced experimentally. Post-mortem examination shows no signs of the action of a specific toxin. The plea for the disease being a primary anæmia is therefore based on clinical grounds, on the clinical picture the cases present to us. Now in this picture the main features of a well-marked case are, in addition to the anæmia, the enlarged spleen, the considerable leucocytosis with its increased variety of leucocytes, and the presence of a notable proportion of normoblasts and megaloblasts. But are we justified in accepting such a group of signs as evidence that the anæmia is a primary anæmia? The enlargement of the spleen is a sign common to many diseases; it is met with in most of the infections, particularly those of any considerable duration. It depends chiefly upon a hyperplasia of the splenic pulp, but is also in part due to the accumulation of effete elements, such as bacteria, red corpuscles, and certain white corpuscles, which have been withdrawn from the circulation to the spleen where they undergo disintegration. The spleen in children seems to enlarge more readily than in the adult, doubtless because the conditions which determine the enlargement are more commonly met with in the former than with the latter. If, then, the enlarged spleen in infantile splenic anæmia has any special significance, it may be that there is an undue amount of foreign material circulating in the blood and that the spleen has hypertrophied in its efforts to deal with it.

It has been suggested that the enlarged spleen manufactures a special toxin which entering the circulation is responsible for the anæmia. We have, however, just seen that the enlarged spleen is more likely to be secondary to the anæmia than the cause of it, but even if a toxin were produced in the spleen as the result of disintegration of red and white corpuscles and other effete substances, one would expect such a toxin to be discharged into the portal circulation and that its toxic effect would first be felt by the liver and the blood corpuscles in the portal area. We have seen, however, that there is no evidence of an increased destruction of red corpuscles in the portal circulation and no evidence of the action of a toxin on the liver. If, then, the spleen does, as has been claimed for it, produce such poisonous substances we have no proof of it.

The considerable leucocytosis met with in the majority of the cases of infantile splenic anæmia is another sign to which

much importance has been attached. But on looking over the proportions of the various kinds of leucocytes in cases such as 6, 7, 8, and 9, where there was a leucocytosis of 20,000 or more, one is struck with how nearly these percentages correspond to the normal, always remembering that in the infant the proportions of the different types of leucocyte differ somewhat from those in the adult.[1] The leucocytosis then in these cases affects all the different types of white corpuscles more or less uniformly, and it must mean that the various tissues where these corpuscles are produced are also more or less uniformly affected. It is questionable if chemiotaxis has much to do with the production of this sort of leucocytosis. We know that the polynuclear cells will increase greatly in number in response to certain chemiotaxic substances, but the same cannot be said for the lymphocyte. Ehrlich holds that a lymphocytosis is produced by increased flow of lymph through lymphatic glands and other lymphoid structures, and possibly irritants in the lymph increase this flow. Neither does the marrow cell, as far as is known, enter the blood in response to any phagocytic or chemiotaxic demand; indeed, its association in the same cases with normoblasts and megaloblasts looks as if the passage into the circulation of all these cells were a passive rather than an active one. The appearance of nucleated red corpuscles in the blood in cases such as Cases 8 and 9 cannot well be due to an increased demand for red corpuscles, seeing that the blood count shows the red corpuscles to be above rather than below normal. If we say, then, that there is a disturbance of the blood-forming organs so that an increased number of leucocytes (and other cells) pass into the circulation, we go as far as we may in dealing with the leucocytosis of infantile splenic anæmia. The blood-forming organs in infants seem to be readily disturbed by disease, and hence we may meet with myelocytes and nucleated red corpuscles in their blood in a variety of morbid conditions. But why there should be a leucocytosis in certain of these anæmias and a leucopenia in others is not the least obvious. It may be a coincidence, but in Cases 1 and 2, the only ones without leucocytosis, there was no appearance of rickets, while in all the others (excepting Case 10) signs of rickets were undoubtedly present. Now, in rickets there is always, to begin with at least, a hyperæmia at the line of ossification. Is it possible that this hyperæmia also involves the marrow of the bone and so accounts for the "disturbance" in this tissue above referred to?

This reading of the signs of infantile anæmia that I have given leads me, then, to the conclusion that the condition is not a primary but rather a secondary anæmia, and in the main due to a functional disorder of the blood-forming organs. Such a disorder, we may say, depends chiefly on a debility of these hæmopoietic tissues, a debility perhaps inherited but depending (in common with other tissues) for its production chiefly on such faults as lack of suitable food and fresh air, but at times determined by the toxins of measles, syphilis, and other infections. If a number of children are ill-fed all their tissues suffer more or less, but usually one tissue more than another, the tissue most affected varying in different children. Hence with some children the debility affects chiefly the blood-forming organs. The same with adults. With some insufficient food or fresh air at once determines anæmia, while with others it is another disorder that shows itself. That these infantile anæmias are of this nature is shown by the results of treatment. Give the infant suitable food and lots of fresh air and, provided no complication such as pneumonia occurs, a cure may be confidently looked for in time. The cure may be slow, but then it is to be remembered that one is perhaps treating a child half its normal weight and with its tissues wasted in a corresponding manner; it cannot but take time to effect a cure in such cases. In speaking of infantile splenic anæmia in this way one includes the three types already referred to—namely (1) the cases with leucopenia; (2) those with moderate leucocytosis; and (3) cases grouped as von Jaksch's splenic anæmia; and one regards them all as secondary anæmias and as simply different phases of the same disease.

Glasgow.

[1] In infancy the following may be taken as the proportions of the different kinds of white corpuscles met with normally: polynuclears, 28 to 40 per cent.; lymphocytes, 50 to 70 per cent.; large mononuclears and transitionals, 6 to 14 per cent.; and eosinophiles, 0·5 to 10 per cent.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A RUPTURED TUBAL GESTATION WITH TWIN FŒTUSES.

BY HUGH N. TAYLOR, M.A. CANTAB., M.A., M.D. DUB., F.R.C.S. EDIN.

A WOMAN, aged 21 years, was seen by a medical practitioner as she complained of abdominal pain and a feeling of faintness. She was told that she was anæmic and an iron tonic prescribed for her. She stayed in bed during the next four days but on the evening of the fourth she came downstairs and "dragged about" her work. Two days after this partial resumption of her duties she went out in the evening for a short walk but on returning home was attacked by severe abdominal pain and fainted while going upstairs, falling and cutting her forehead badly. She remained in bed all the next day and on the next—i.e., some nine days after the original attack—she became so much worse that I was asked to see her. I found her in bed moaning and restless and it was at once obvious that some very grave peritoneal disaster had overtaken her. The patient was absolutely blanched, even her lips and gums were colourless. The flickering pulse was almost uncountable (I made it somewhere between 160 and 170 to the minute), the abdomen was distended, dull all over to percussion, and so tender that one could make nothing out bimanually. There had been a little sickness but there was no history of digestive disturbances suggesting the probability of her symptoms being due to a perforated gastric ulcer, nor was there any balance of evidence in favour of appendicular trouble. There was, however, a history of some three or four months' amenorrhœa. I asked her if she had any reason to suspect that she might be pregnant and after some hesitation she admitted that she believed herself to be three or four months in the family way. I therefore looked upon the case as one of ruptured ectopic gestation and sent for assistance. On the arrival of the operating surgeon (I do not wish to give names) he opened the abdomen which was full of blood and ligatured and removed a ruptured tubal sac with twin fœtuses attached. The patient was infused with saline solution after the operation and there was some little sickness for a day or two but her recovery was uninterrupted.

Taking the symptoms in conjunction with the undoubted existence of pregnancy I think that I was justified in diagnosing a ruptured extra-uterine conception, though there had been none of the usual irregular hæmorrhages, no colicky pains, and no extrusion—neither at the time of the rupture nor since—of anything like a decidual membrane. I think that probably the course of the case was that there was a partial rupture with a small opening which was responsible for the initial symptoms, but with rest in bed this extremely limited rent became temporarily sealed, but that her resumption of work and the exertion of walking precipitated the complete rupture of the sac, and that the fortunate issue of the case was due to the promptitude with which surgical measures were adopted.

AN UNUSUAL SEQUEL TO PYLORECTOMY.

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THE patient, a man, aged 59 years, was admitted to the Sheffield Royal Infirmary on July 23rd, 1908. His history pointed to malignant disease of the stomach and an exploratory laparotomy revealed the presence of a cancerous mass occupying the pyloric end of the stomach and spreading along its lesser curvature almost to the œsophageal opening. The growth was excised in the usual way, an anastomosis being effected between the first part of the jejunum and what was left of the stomach.

The patient made a good recovery from the operation and

his progress was in every respect satisfactory for the succeeding three weeks, by which time he was walking about in the infirmary grounds and eating light solid food. On the night of August 28th he began to have severe abdominal pain which continued during the following day, and he was sick several times, bringing up small quantities of clear fluid. A turpentine enema produced a good result but gave no relief to his pain. Towards the evening of the 29th his pulse-rate ran up to 116 per minute, and abdominal distension supervened. He suffered much from hiccough and looked so very ill that at 9 P.M. it was decided to explore his abdomen. This was done through the healed wound. Several quarts of clear fluid escaped. A bacteriological examination of this fluid failed to show organisms. The parts concerned in the operation were found to be soundly healed and there was no evidence of lymph anywhere. About eight feet of the upper end of the small gut, with the corresponding mesentery, were of a bright pink colour, due to intense congestion of the arterioles. The transition from injected to normal bowel was sharply marked at either end. There were no bands or adhesions that could have interfered with the circulation. The injected segment of bowel was slightly distended and its walls were œdematous and unduly thick. A glass tube was passed into the pelvis through a small suprapubic puncture and the abdomen was closed. There were free drainage from the tube for two or three days and slight pyrexia, but the pain was relieved immediately and the pulse-rate soon receded to the normal. The patient is now (Jan. 16th, 1909) in excellent health.

My excuse for sending these notes for publication is that I have not seen or heard of a similar case. One can but conjecture as to the pathological starting point and why the train of symptoms should have supervened at the time they did. It is, however, I think, obvious that whatever the initial lesion was it led to vaso-motor disturbance and extreme dilatation of the arterial vessels of the segment of bowel and mesentery concerned with the rapid outpouring of a large quantity of peritoneal serum. Not the least remarkable feature in the case is that the alarming symptoms should apparently have been promptly arrested by simple drainage of the peritoneum.

Sheffield.

THE TREATMENT OF CHRONIC JOINT CONDITIONS BY FIBROLYSIN.

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HONORARY PHYSICIAN, ROYAL UNITED AND ROYAL MINERAL WATER HOSPITALS, BATH.

DURING the last four months I have been using fibrolysin, which is a double salt of thiosinamin and sodium salicylate, with great success in the treatment of deformities and contractions arising from chronic joint conditions. The large majority of my cases have been rheumatoid ones in which there have been great deformity and stiffening of the joints with muscular contraction—the result of long continued disease. I have not found it of use in the acute cases, but it seems to do as well in rheumatic as in rheumatoid conditions. The preparation is injected in doses of about 40 minims (2·4 cubic centimetres) twice a week into the subcutaneous tissues of the arm, leg, or loins. I find it is not advisable to inject it near a joint. The injection causes a little pain and tingling which in a few cases pass into considerable swelling, pain, redness, and irritability of the skin. So far I have observed no bad constitutional symptoms. After a few days one can only detect a slightly tender lump where the injection was made. As a rule no improvement is apparent until four or five injections have been given, and it is necessary to give 30 to 40 all told. As I have said, I am not satisfied that it gives any benefit in acute cases or while the mischief is spreading, and one would not expect it. It has no action on the course of the disease and does not relieve pain, but it does help in a most wonderful way in quiescent cases in allowing joints to be used which have for months and years been quite stiff, and it allows distorted and twisted joints to become straight and more or less supple.

The most suitable cases are those in which the joint mischief is quiescent or cured but where much deformity and stiffening remain as a consequence. These, when treated with fibrolysin, baths, massage, &c., yield results which in my experience cannot be obtained by any other means. I write this short note in the hope that it will attract attention to a line of treatment which promises great things to many who are at present crippled and a burden to themselves and others.

Bath.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Functions of the Colon in Relation to Colic Exclusion.—Repeated Strangulation of an Obturator Hernia.

A meeting of this section was held on Jan. 12th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. ERNEST W. HEY GROVES, with the collaboration of Dr. I. WALKER HALL, contributed a paper on the Functions of the Colon in Relation to Colic Exclusion. The object of the communication was to bring forward some facts relating to the anatomy and physiology of the colon. The results in the first case narrated showed: (1) that after a partial exclusion of the colon the absorption of water was abundant, the diarrhœa being due simply to the discharge of mucus; and (2) that the amount of nitrogen and fat in the fæces, although high in proportion to the intake, represented only the almost irreducible minimum that was always present in the fæces. Thus it had been shown that adults passed about 8 grammes of bacteria in the fæces daily, and this amount varies from 2·6 grammes in constipation to 20 grammes in diarrhœa. A fasting individual passed 3·47 grammes of solid material in the fæces daily, which included about 0·57 to 1·3 grammes of fat. The patient in the first case was a woman in whom after a partial exclusion of the colon a colectomy was performed. After this she made a good recovery and had since been very greatly improved in health, so that she had been able to resume her occupation, chronic constipation having before operative treatment rendered her a permanent invalid. An analysis of the fæces of the patient on a recent occasion showed that although an abnormally high proportion of water was passed in the fæces yet there was abundant absorption when plenty of fluid was taken and that the absorption of nitrogen, fat, and carbohydrate was practically normal—that of nitrogen being on two occasions 90 per cent. and that of fat and carbohydrate being but little different from the normal average. There did not seem to be so much water absorbed after the colon had been removed as after its partial exclusion and the improvement in health which followed the colectomy could not be due either to an alteration in water or food absorption. The improvement probably resulted from the removal of a receptacle in which from the stagnation of its contents some toxic absorption took place. In the second case described the patient was a youth, aged 19 years, with a history of indigestion and constipation. He was admitted to the Bristol General Hospital in a condition of perfect collapse, having been awakened at night 40 hours previously by sudden abdominal pain and vomiting which continued till admission. The abdomen was opened over the appendix and much fæculent fluid was found in the peritoneum with some solid fæces in the right iliac fossa. There was a large rent in the cæcum at the base of the appendix. The appendix was removed, the rupture sewn up, and the peritoneal cavity mopped out with dry swabs and drained. About ten days afterwards a furious secondary hæmorrhage occurred and was promptly treated by operation. Later an ileo-sigmoidostomy was performed and the last observations on the case showed that the bowels acted with the greatest possible regularity at the rate of one motion each day. The motion was perfectly natural in colour, consistency, and appearance and the patient took a mixed diet. The results of the investigations carried out in this case showed that water absorption was amply carried out by the rectum and pelvic colon after the great part of the large intestine had been partially excluded and that whilst this absorption was not so good after the colon had been removed it was quite sufficient for the nutritive economy. The symptoms arising in the partially excluded colon were relieved by its removal. The paper also

dealt with the subject of peristaltic and antiperistaltic movements of the colon. The chief parts of the intestinal canal and stomach of an old woman whose body was provided at the Bristol Medical School for dissection were then demonstrated to the members of the section and illustrated the conditions which have been described so often by Mr. W. Arbuthnot Lane as being associated with chronic constipation. The following conditions were demonstrated on the specimens:—(1) a matting together of the parts of the colon, (2) a marked pathological kinking of the colon at the hepatic flexure and at the middle of the transverse colon and an exaggeration of the natural angle at the splenic flexure, (3) a dropping down of the pylorus with kinking of the pyloric canal and of the duodenum, (4) biliary lithiasis, (5) adhesions of the appendix and of the uterine appendages, and (6) a slight degree of enteroptosis. The special point which was emphasised in the specimen was the nature of the so-called adhesions. These did not appear to have an inflammatory nature or origin, for the membrane which bound together the various loops of bowel was only loosely attached to them and was, in fact, nothing more nor less than the peritoneum, the relation of which to the gut had been altered by the enlargement of the latter. The paper finished with the following conclusions: 1. That the colon absorbs about 10 per cent. to 20 per cent. of the water from the fæces. 2. That this absorption takes place rapidly and is quite efficiently performed in the rectum and pelvic colon alone. 3. That the absorption of foodstuffs in the colon is so slight as to be negligible. 4. That therefore the greater part of the large intestine is functionally unnecessary. 5. That as the contents of the colon consist of nearly one-third part by weight of bacteria the absorption of soluble bacterial products probably occurs in all cases of colic stagnation. 6. In normal patients the whole of the colon can readily be irrigated by rectal injections but this is doubtful when the colon is much dilated and kinked. 7. The operation of ileo-sigmoidostomy or partial colic exclusion was in normal cases followed by no metabolic disturbance. 8. Functional diseases of the colon associated with constipation are divisible into two main categories: (*a*) idiopathic dilatation; and (*b*) atony with secondary dilatation and kinking, but it is often difficult to distinguish between these in advanced cases. 9. In cases of idiopathic dilatation of the colon after an ileo-sigmoidostomy has partially excluded the large gut, this forms a blind pouch into which gas, fluid, and fæces are forced by antiperistalsis. This necessitates the removal of this part of the colon. 10. Cases of constipation from atony of the colon require great care in their discrimination between those suitable and those unsuitable for operation. 11. An attempt should be made in all these cases to determine the places where stasis occurs by means of radiography after bismuth feeding. 12. When the rectum and the pelvic colon are the seats of stasis enemata ought to afford relief, and any operation will be of very doubtful utility. 13. When the stasis occurs chiefly in the parts above the splenic flexure then, if prolonged massage and medical treatment have proved unavailing, surgical treatment is necessary. 14. When the patient is in an advanced condition of toxæmia it is probably making too great a demand on his strength to perform excision of the large bowel and anastomosis at the first operation. The safer method was to divide the ileum and to perform an ileo-sigmoidostomy. The distal stump of ileum could either be brought to the surface and a Paul's tube tied in or it might be implanted into the pelvic colon a few inches from the proximal part of the ileum.—The PRESIDENT commented on the fact that surgeons were learning how large a part of the digestive apparatus could be dispensed with, and it was very interesting to learn what the effect of such operations was on the metabolism of nutrition of the patients.—Mr. W. MCADAM ECCLES pointed out that there were two physiological points of importance in the contribution. The first was that there might be an almost equivalent quantity of water absorbed from the pelvic colon and the rectum as from the rest of the large intestine, showing that the operation of ileo-sigmoidostomy was not an operation which would place the patient in any physiological danger. With regard to antiperistalsis, he did not think physiologists had shown that to occur normally; when it was present it always seemed that there was some abnormal excitement in the large intestine. And where the operation was done for chronic constipation, was it not better to avoid dividing the ileum between the anastomosis and the cæcum, leaving the normal passage intact but taking care that the opening between the ileum and the pelvic colon was large enough to enable three-quarters of the intestinal contents to pass directly into the pelvic colon. In his later cases he had never divided the ileum where there had been merely chronic constipation. The matter was different in the case of malignant disease.—Mr. J. P. LOCKHART MUMMERY did not agree with Mr. Eccles about antiperistalsis, as that process was a normal one in the ascending and transverse portions of the colon. It had been observed in human beings by means of the x rays and in experiments upon animals, and he had many times observed it in experiments on cats which he carried out last year. The antiperistaltic waves started in the centre of the transverse colon and then slowly swept back with a definite rhythm to the ileo-cæcal valve. Those waves then changed to segmental ones. Therefore he did not think Mr. Eccles's suggestion as to not dividing the ileum would help in regard to ileo-sigmoidostomy. If the colon was to be left he thought a better method was to divide the ileum and to divide the colon above the anastomosis, establishing an opening on the skin. Washing out would then be possible and the colon would have a chance to atrophy. The suggestion just made was incompatible with health and the procedure only postponed the recurrence of the mischief. Mr. Lane admitted that there was a loss of fluid in connexion with the operation and that surgeon always injected a large quantity of water subcutaneously into his patients. Several of the cases drank excessive quantities of water.—Mr. GROVES replied that Mr. Lane's earlier cases were treated by lateral anastomosis but that method was given up as unsatisfactory. Lateral anastomosis, in the absence of sinuses, was generally followed by the intestinal stream going on in the old path. With regard to ileo-sigmoidostomy not having been successful, he believed it had not been the cases in which the colon had been excised which suffered in that way, but the earlier cases which were treated by simple ileo-sigmoidostomy. The patients did all right in regard to their constipation for the first few months, but afterwards they began to lose flesh, become anæmic, and suffer pain. That was due to the fact that there was a large cesspool in which there was no stream and therefore in which substances decomposed and toxic substances originated. If the ileum were anastomosed with the upper part in the pelvic colon there would be sufficient colon left to carry on the metabolic economy. The point which he had raised was as to whether the greater part of the colon could be removed without injurious metabolic effects and he thought his figures demonstrated that point.

Mr. EDRED M. CORNER and Mr. G. MARTIN HUGGINS communicated a paper on the Repeated Strangulation of an Obturator Hernia, necessitating its radical cure, with remarks upon obturator hernia in general. Mr. Corner said that they recorded the case because the hernia was strangulated no less than three times, whilst the patient was never free from abdominal pain and discomfort in the intervals between these acute crises. Her clinical condition in consequence demanded that a radical cure should be devised and done. In addition the pathological condition of angulation of the bowel, the result of its repeated strangulation, pointed in the same direction. A radical cure was performed, and since that time she had been free from all discomfort. From the 21 years, 1886–1906 inclusively, at St. Bartholomew's Hospital there were 970 cases of intestinal obstruction due to the strangulation of the bowel in the hernial regions—inguinal, femoral, umbilical, ventral, and obturator—of which only two were obturator, giving the proportion as 1 case in every 485 cases of strangulated hernia. During the 17 years, 1890–1907 inclusively, there were admitted to St. Thomas's Hospital 1026 cases of strangulated hernia, of which four were obturator, giving the proportion of 1 in 256 cases. If the statistics of both hospitals were put together the frequency became 1 in 332 cases. As St. Bartholomew's Hospital got on the average 46 strangulated herniæ every year they would get an obturator every seven years, and as at St. Thomas's Hospital they had 64 strangulated herniæ every year, they would have one obturator hernia every five years. It was a form of hernia which was more common in women. Since the publication of Jaboulay's text-book in 1899 they had collected

five cases in men and 26 in women, which combined with his figures gave 144 women to 23 men. The approximate proportion was 6 to 1, which was an extraordinary one considering how much more frequent strangulated herniæ generally were in men as compared with women. From that great frequency one natually suspected that the habit of childbearing might influence the occurrence of the hernia. Obturator herniæ in subjects under 45 years of age were very rare. But they had been known to occur as early as the age of 12 years. As a general rule the men in whom it occurred were younger than the women. In every case of strangulated obturator hernia there should be local signs present, but they were often insignificant. A tender swelling below, deeper than, and rather internal to, the usual situation of a femoral hernia, could be detected, especially when the two groins were compared. Frequently, but not in the majority of cases, the patients complained of pain down the obturator nerve. The real reason why that form of hernia was not diagnosed was that the method of rectal or vaginal examination was so frequently neglected. An obturator hernia when strangulated could be felt easily per rectum. In the last ten years the mortality had been about 33 per cent., but that was no criterion to go by, as the prognosis depended much more on the diagnosis being made early than on anything else, because nothing but operation could relieve the patient. Usually the diagnosis of intestinal obstruction was made and the obturator hernia only discovered when the abdomen had been opened. Hence the result depended upon how much time was allowed to pass by before it was decided to operate. The usual viscus found in a small sac of a strangulated obturator hernia was small bowel—ileum—which was partially engaged, so that its lumen was only in part obstructed. In regard to the case reported by Mr. Corner and Mr. Huggins, the patient was a female, aged 62 years, who, on Dec. 19th, 1908, was readmitted to hospital suffering from intestinal obstruction for the third time. Before leaving previously she had been warned to seek readmission at once if her symptoms of intestinal obstruction returned and to waste no time in doing so. In consequence the symptoms were of less than 24 hours' duration. Abdominal section was immediately performed through the old scar. A part of the ileum was found to be ensnared in the right obturator foramen as a partial enterocele or Richter's hernia. It was easily disengaged without it being necessary to divide the neck of the sac to set free the bowel. It was then seen that where the bowel had been injured it had become adherent to itself, forming quite sharp angulation by the contact of the two limbs of the coil. It was decided not to resect the bowel to obviate that. The operation was the third which had been performed on the patient for intestinal obstruction. In consequence it was felt that something must be done to obviate any further occurrence of the accident. An incision was made over the thigh, rather internal to the situation of an incision for femoral hernia and parallel with it. The pectineus muscle was exposed, its fibres separated and held apart with retractors. That exposed a layer of fascia—the obturator fascia—lying over the obturator externus muscle which concealed the sac. That fascia was strong and closed the outer opening of the obturator canal. It was incised, the sac being exposed and freed from its surrounding attachments, no trace of the pelvic fascia over the obturator internus being seen. It now became quite obvious that the sac could not be ligatured at its origin and a radical cure performed from the outer end of the obturator canal with any hope of success in preventing the recurrence of the hernia. The obturator foramen was converted into a canal by the obturator muscles and it was no use at all to close the outer end of the canal to prevent anything entering the inner end any more than it would be to close the back door of a house to prevent anyone coming in through the front door. So having freed the hernial sac through the crural incision it became obvious that the radical cure must be completed through the abdominal incision. The unopened hernial sac was inverted in a manner similar to that done in Kocher's radical cure for inguinal hernia and maintained in the new position by a stitch through the parietes. The incision in the relaxed obturator fascia and the rest of the crural wound were closed. The abdominal incision was likewise sutured. Both wounds healed by first intention and the patient was discharged from hospital 16 days after operation. Since then she had been seen from time to time and had improved immensely in her general health, having suffered from no abdominal pains or discomfort. There were two main points in the acquisition of an obturator hernia. The first and most important was that the patient, after being previously and perhaps only comparatively fat, became thinner. With the general absorption of the fat throughout the body that within the obturator canal disappeared and was replaced by the bulging of the peritoneum over it to form the hernial sac. Thus, a very important part of the post-operative treatment of these cases was to fatten them. That could not always be done if a radical cure for the hernia had not been performed. The second most important factor in the production of an obturator hernia was the enlargement of the obturator canal by the changes which took place in the pelvis in consequence of pregnancy.—The PRESIDENT believed that the high mortality in connexion with the condition was chiefly due to the facts that often strangulation had existed for some time when the patient sought advice and that, especially in stout persons, the characteristic symptoms were absent. It was important to be reminded of the additional information afforded by examinations per rectum and per vaginam.—Mr. A. E. J. BARKER asked whether Mr. Corner and Mr. Huggins thought, from what they saw in the case, that they could have inverted the sac without cutting into the thigh. Some years ago he operated upon a case of obscure intestinal obstruction and found that a small femoral hernia had been reduced *en masse*. He withdrew it after division of the neck of the sac. It was then easy to put forceps down into the sac, seize the base of it, and invert it, tie a thread round the neck and produce a radical cure of the hernia. If that could be done for obturator hernia it would reduce the time of the operation and the risks.—Mr. ECCLES said that during last year he had had a case of obturator hernia at St. Bartholomew's Hospital in a married woman, aged 59 years, who had been subject to constipation all her life and during the last three years had had occasional attacks of abdominal pain with vomiting and constipation. 14 days before admission the patient experienced sudden acute pain in the centre of the abdomen, so that she had to give up her work. She vomited only once, and then there was no effort involved in it. She was very pale and emaciated on admission, and had all the signs of collapse, her temperature being only 97° F. The abdomen was very poorly covered and very distended coils of intestine were seen with peristaltic movement. Rectal and vaginal examinations did not reveal anything definite. He operated, as did Mr. Corner in the case now related, and found some collapsed intestine in the pelvis, and in pressing it out he came to the right obturator region. A more gentle pull brought a portion of the bowel away, owing to a very small area being gangrenous. The patient died shortly afterwards. In the majority of such cases the hernia had been exceedingly small. He doubted whether such cases could be diagnosed by the presence of a tumour in the thigh, as the text-books stated. Such cases as that now related showed that when a patient had obscure signs with complete intestinal obstruction the sooner exploration was carried out the better.—Mr. GROVES asked whether Mr. Corner and Mr. Huggins considered that obturator hernia always came through the same aperture as the obturator vessels and nerves, or whether the hernia bulged its way through a weak place in the membrane.—The PRESIDENT thought one reason for believing that the bowel generally protruded through the obturator opening proper was the frequent association of pain along the course of the obturator nerve.—Mr. CORNER replied that the patient chanced to visit the hospital a few days ago, and he was able to assure himself that she had greatly improved in health and was now quite fat. An important causal factor in such cases seemed to be the great loss of fat all over the body and that was borne out by the case mentioned by Mr. Eccles. In a very thin patient at St. Thomas's Hospital upon whom he had to operate, before closing the abdomen he felt for the obturator foramina and found both of them big enough to admit the tip of his finger, so that that man, as a result of his emaciation, had a potential bilateral obturator hernia. It was very unusual to find obturator hernia of congenital origin. He tried to carry out the procedure mentioned by Mr. Barker before making the crural incision but it was impossible. In Mr. Barker's case it had already been partially reduced

en masse, which was of course a great help. It was true that the part of bowel engaged in such hernia was very small; in 70 per cent. only a part of the bowel was engaged in the hernia. In most of the cases the condition was not diagnosed until a laparotomy was performed, and in former years it was only done at the post-mortem examination. In the case recorded, and in the other which he just mentioned, the hernia was through the obturator canal. There was always the possibility in such cases of having to divide some constricting band to free the ensnared bowel, and it was important to know in which direction to do that. In the majority of cases the hernia sac lay above the obturator vessels. Pain down the obturator nerve had been singularly often absent in such cases.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Tissue Antiseptics with Reference to Animal Infections.—Salicylates as Retentives of Uric Acid.—Nutmeg Poisoning.

A MEETING of this section was held on Jan. 5th, Dr. T. E. BURTON BROWN, the President, being in the chair.

Professor A. R. CUSHNY read a paper upon Tissue Antiseptics with Reference to Animal Infections. Since Lister had demonstrated how completely the activities of pyogenic organisms could be held in check by means of drugs many attempts had been made to achieve the same result in diseases more strictly medical. In the specific fevers, and especially in tuberculosis, corrosive sublimate, carbolic acid, organic preparations of silver, and, more recently, formaldehyde had all in turn been tried and abandoned. The antiquity of these specific micro-organisms was such that they had acquired a very perfect adaptation to their surroundings and an enormous power of resisting influences malign to their growth—a power much greater than that possessed by their mammalian host. In other words, the host was too vulnerable, the parasite too resistant. The disinfection of wounds was only achieved by the local destruction of the tissues around the infected part. In one group of diseases a greater measure of success had been achieved. In diseases due to animal organisms—e.g., syphilis, malaria, and sleeping sickness—the disease was due to a parasite which was younger, less perfect in its adaptation, less resistant to drugs, and which probably neither produced a toxin nor provoked an antitoxin. Professor Cushny went on to describe experiments which he had performed to determine the resistance of the trypanosome of sleeping sickness to drugs, such as arsenic, antimony, and bismuth. In all three a proportion of 1 in 200,000 was sufficient to banish the parasite. Thus 1 milligramme of antimony destroyed the parasites in a 200-gramme rat. Arsenic acted more slowly than antimony, and in the case of bismuth the damage done to the host was generally irreparable. The trypanosomes were not permanently destroyed but in course of time returned. As often as they were banished they returned and at shorter and shorter intervals. Finally, a race of antimony-resistant or of arsenic-resistant trypanosomes was produced which, retaining this quality, could be propagated from rat to rat. The arsenic-resistant trypanosomes, however, were still susceptible to antimony or bismuth, and *vice versâ*, and in this might be found a modern indication for the use of old time polypharmacy. In a patient treated at once with all the drugs available few trypanosomes would survive the combined attack. The trypanosome obtained from the rat, which was resistant for any one drug, injected into a mouse again became non-resistant to that drug.—The PRESIDENT referred to the way in which quinine lost its power in chronic cases of malaria and found the explanation in Professor Cushny's work.

Dr. ALEXANDER HAIG read a paper upon Salicylates as Retentives of Uric Acid. He maintained that while large doses of the drug acted as solvents of uric acid small doses acted as retentives. This retention was proved by the diminution in number of certain granules in the blood and was invariably accompanied by a quickening of the capillary circulation. A measure of the time of the "capillary reflux," he maintained, was thus an accurate measure of the amount of uric acid in the blood. Dr. Haig demonstrated the instrument which he made use of to determine the time of the capillary reflux and showed charts illustrating the results obtained.—Dr. A. P. LUFF dissented entirely from the view that it was in any way possible to estimate the amount of uric acid in the blood by the appearances in the blood referred to. He had searched in vain through Dr. Haig's writings for an account of a single chemical estimation of the amount of uric acid. He denied that there was any proof at all that uric acid was a poison or that many symptoms attributed to it were due to it.—Dr. H. C. CAMERON said that apart from the question as to whether or not the capillary reflux time was influenced by the amount of uric acid in the blood there were so large a number of varying factors which did profoundly influence it—temperature, posture, emotion, the condition of the digestive organs, &c.—that he could not think that the results obtained could be trustworthy.—Dr. HAIG replied.

Dr. H. H. DALE read a paper entitled "A Note upon Nutmeg Poisoning," which was discussed by Professor CUSHNY and Dr. J. GRAY DUNCANSON.—Dr. DALE replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Stonemasons' Phthisis.—The Action of Vaso-Dilators.—Electro-Therapeutics.

A MEETING of this society was held on Jan. 13th, Dr. JAMES RITCHIE, the President, being in the chair.

Dr. GEORGE A. GIBSON showed: 1. A boy, aged five years, suffering from very well-marked Cerebral Diplegia. He had never used his arms or legs. The spasticity of the muscles was remarkable; all the skin and muscle reflexes were greatly exaggerated. The characteristic scissor gait was well shown, the limbs being crossed and the adductor contraction was so great that the legs could only be advanced past one another by jerks. 2. A most characteristic case of Acromegaly in a woman, aged 50 years, from Brechin; there had been no change in stature but the feet and hands had become enormous as also the lower part of the face; the lower teeth projected in front of the upper and the angle of the jaw had become obtuse. He thought that there was a slight hypertrophy of the thymus gland, and the liver and heart were enlarged. The woman suffered from an early bi-temporal hemianopsia due to the enlargement of the pituitary gland. There was a tendency to enlargement of the epiphysial ends of the bones, especially in the fingers; there was also a slight tendency to progressive muscular atrophy.

Dr. NORMAN WALKER showed: 1. A unique case of Grouped Comedones on the Left Side of the Chest and down the front of the Left Arm as far as the Elbow in a young woman. 2. A boy with three Primary Specific Lesions on the Chin. The other three members of the family as well as the mother were healthy. It was at first doubted whether it was not an infective staphylococcus lesion but the glands were enlarged and were now very hard. 3. A woman with Healing Ulcers on the Thighs, the Legs, and the Arms. She had been perfectly well until November last when she felt itching and scratched the parts; blisters formed and dried up to form scabs. The application of starch poultices left a whole series of ulcers. Nodules were now appearing in the deeper layers of the skin of the arms. The eruption was a tertiary manifestation of a specific character.

Dr. G. LOVELL GULLAND read a paper on Stonemasons' Phthisis. He said that in January, 1907, he had been asked to give evidence before the Home Office committee on this disease with the view of ascertaining whether it was a disease which should be included under those scheduled in the Workmen's Compensation Act. It seemed to him then that the whole question turned upon whether the condition was primarily due to grit and whether it remained a fibroid phthisis due to the particles or whether tubercle played a large part in its causation and continuance. The opinion of authorities was most conflicting; the older authors regarded the condition as mainly due to grit, while more recent authors admitted the probability of a large part being played by tubercle. Edinburgh had always been regarded as a locality where this disease was most prevalent owing to the fact that the freestone used in building made a fine dust which remained suspended in the air for long and so was inhaled by the hewers. Stonecutting took place mainly in long wooden temporary sheds open at one side, and when

many men were employed the dust was very considerable. No steps were taken to remove this dust from the sheds and thus it was stirred up in walking. The statistics from which deductions were made dealt with 87 masons who had attended as out-patients at the Victoria Dispensary for Diseases of the Chest and 36 in-patients who had been treated at the Royal Victoria Hospital for Consumption, Edinburgh, and all of whom were undoubtedly tuberculous—a total of 123 cases in all. A distinction had to be kept in mind between the builders who laid the stones and the hewers who cut them, the conditions of work being widely different in each. Of the 87 cases, 76 were hewers and 11 were builders, which was a sufficiently striking illustration of the difference in incidence of respiratory diseases between the two classes. Of the 87 cases, two only did not show signs of lung mischief, one, a hewer, having aortic stenosis, and the other, a builder, having ordinary laryngitis. Excluding these two, 85 outdoor cases remained and all showed more or less marked physical signs. The age incidence was as follows:—Up to 20 years, one case; 20 to 30 years, 11 cases; 30 to 40 years, 21 cases; 40 to 50 years, 33 cases; 50 to 60 years, 15 cases; and 60 to 70 years, four cases. This showed that the 40 to 50 years period yielded by far the greatest number, and this was not the rule with ordinary cases of phthisis. Comparing this with all patients applying at the dispensary, the largest number by far belonged to the 20 to 30 years period and next to this to the 10 to 20 years period, so that stonemasons appeared 10 years later than people engaged in mixed trades. The indoor cases yielded somewhat different results: up to 20 years, one case; 20 to 30 years, 11 cases; 30 to 40 years, 13 cases; 40 to 50 years, seven cases; 50 to 60 years, three cases; and 60 to 70 years, one case. The tendency was rather to admit younger patients to the hospital, the chance of recovery being greater amongst them. Adding the two classes of cases together the following results were obtained:—Up to 20 years, two cases; 20 to 30 years, 22 cases; 30 to 40 years, 34 cases; 40 to 50 years, 40 cases; 50 to 60 years, 18 cases; and 60 to 70 years, five cases. In both classes of patients the family history was good regarding tubercle, in the out-patient cases only 13 giving a family history of phthisis, while the in-patients gave eight, or 21 in all out of 121 cases. The amounts of mischief in the chests of the out-patients might be classified in the following manner: early, 22 cases; medium, 29 cases; advanced, 29 cases; bronchitis, two cases; pleural effusion, one case; and chronic fibrosis with marked emphysema, two cases. Amongst the in-patients there were seven early, three medium, and 26 advanced cases. Dr. Gulland stated that he had never satisfied himself that there was any fundamental difference in physical signs between stonemasons' phthisis and ordinary tuberculous phthisis. There was no special tendency to the development of emphysema, of marked dulness suggesting dense fibrous tissue, or to any difference in physical signs given by the cavities between these cases and ordinary tuberculous phthisis. The whole series of cases, as far as physical signs went, could easily be paralleled by a similar number taken almost at random from persons engaged in other trades. Of the out-patients some had been off work from one day to several years previous to their appearance at the dispensary, and the periods during which they had considered themselves ill varied in the most extraordinary manner. As regards the number of stonemasons whose sputum contained tubercle bacilli, the cases which had presented themselves at the dispensary during the past four years were alone considered, as this period coincided with the system of voluntary notification, and later of compulsory notification, of phthisis in Edinburgh. During this period the sputum of all cases which could and would furnish it had been examined as a matter of routine. In the 85 cases the sputum had been examined in 54, or 63·5 per cent., and in these tubercle bacilli in varying numbers were found in 48, or 88·8 per cent. Of the remaining six cases three were only seen once; two of these were very early cases in which tubercle bacilli might or might not have been present in the sputum at the time, and the third was an advanced case with cavities but with a good deal of bronchitis in addition. Bronchitis was also present in the other three cases, which were seen more frequently but which were all more advanced. The percentage of cases in which tubercle bacilli were found at a first examination was very high—as high as, if not higher than, if a similar number of ordinary phthisis cases had been taken at random. Amongst the 36 in-patients bacilli were present in the sputum of 31 cases, one had no sputum, one was a case of fibrinous bronchitis, one left before examination, there was no record in one case, and in the remaining case no tubercle could be discovered though the patient was in hospital for ten months. It had to be remembered that a certain number of these stonemasons would in all probability have contracted phthisis in any case. The "all male" death-rate from tubercle was 267 per 100,000, while the death-rate of this trade group was 586, or more than double. It might be assumed that a considerable proportion of the cases quoted were primarily tuberculous and had no necessary relation to occupation, and probably many of the cases occurring in the young men would fall under this category. The age incidence was late in stonemasons and a very large proportion must have owed their lung mischief largely to their occupation. The stone dust would irritate the bronchi and bronchioles and so the tubercle bacilli found a ready lodgment. The finer the dust the more prevalent was phthisis amongst the workers. The granite cutters of Aberdeen were not so numerously affected as men who worked in freestone. The real point of difficulty was to know exactly at what stage of the process the tubercle bacillus started its inroads. Dr. Gulland's opinion was that the organism came into play very early in the condition and that the disease generally assumed the chronic type which it had because the irritation of the stone dust caused the formation of fibrous tissue and limited the invasion of the bacillus to a certain extent. The stone dust might be regarded as being at the same time the primary irritant and a secondary safeguard. The men had suffered longer from symptoms than did the ordinary run of cases which came to the dispensary. They lived longer but, as might be expected, did not improve under treatment to anything like the same extent, and much the same results were obtained with the in-patients. It was difficult to see how this high incidence of tubercle amongst stonemasons might be prevented. The committee took practically the same view as that of Dr. Gulland—viz., that it was impossible to make this disease a subject for legal compensation, because of its duration, the possibility of the men having acquired phthisis from other sources, and because of the impossibility of deciding from the physical signs whether any given case had more of the tubercle or of the grit element in it. Obviously it would be unfair to penalise any employer for disease which had occurred in one of his workmen who had probably acquired it years previously in the employment of some other master. It was doubtful if any means such as exhaust fans would be practicable in the temporary sheds in which the men worked. The only feasible method seemed that the men should wear respirators while at work of sufficiently fine mesh to exclude the dust. Encouraging results had followed their employment in certain places. The apathy of the workmen towards their own health was extraordinary, but a well-organised trade society amongst them might initiate such a remedial measure.—Dr. W. RUSSELL, Dr. A. WALKER, Dr. W. F. DE WATTEVILLE, Dr. J. A. AFFLECK, and the PRESIDENT discussed the paper.

Dr. EDWIN MATTHEW read a paper on the Action and Uses of Vaso-dilators on High Blood Pressure. He said that numerous medicinal substances had a beneficial action in high blood pressure—e.g., nitrites and organic nitrates, potassium iodide, benzoates, hippurates, and certain organic extracts. Of these only the nitrites and nitrates were vaso-dilators. Many nitrites had been produced and investigated but his observations had been only with those in everyday use—viz., amyl nitrite, liquor trinitrini or nitroglycerine, sodium and potassium nitrites, erythrol tetranitrate, and mannitol hexanitrate. He had attempted by sphygmomanometric observations to ascertain for each of these nitrites their action and benefit or otherwise in cases of hypertension. These cases were chosen at random, irrespectively of the cause underlying the high pressure, as he wished to arrive at an idea of their action in all cases where there existed elevation of pressure. In making these observations various points that covered the whole action of a vaso-dilator had to be ascertained: 1. The time of onset of the vaso-dilator action. 2. The amount of reduction in pressure in millimetres of mercury. 3. The time after which a maximum reduction is produced. 4. The length of time the pressure remains at its lowest. 5. The time after which the pressure regains its normal

level. I. *Amyl nitrite.*—The complete action of amyl nitrite by the instruments employed was not easy to ascertain. For it instruments recording graphically are necessary. II. *Liquor trinitrini or nitroglycerine.*—No satisfactory results with tablets of nitroglycerine. Liquor trinitrini: 1. Produced an action in one minute. 2. Produced a fall in pressure of between 25 and 30 millimetres of mercury. 3. Produced a maximum effect in five minutes. 4. The pressure remained at its lowest for only two minutes. 5. The original level of pressure was again reached in 28 minutes. From the short time the action lasted liquor trinitrini was found to be useless for maintaining a reduction in pressure. III. *Sodium and potassium nitrites.*—20 observations made. 1. They produced a vaso-dilator action in five minutes. 2. They produced a reduction in pressure of 32 millimetres of mercury. 3. They produced a maximum effect in 15 minutes. 4. The pressure remained at its lowest for about 30 minutes. 5. The original level of pressure was again reached in two hours. With repeated doses given three or four times a day it was possible to maintain with these nitrites a reduction in pressure, lasting only so long as the drug was administered. IV. *Erythrol tetranitrate.*—14 observations with Martindale's chocolate tablets. 1. Produced an action in six minutes. 2. Produced a fall of 35 millimetres of mercury. 3. Produced a maximum effect in 25 minutes. 4. The pressure remained at its lowest for two hours. 5. The original level of pressure was again reached in six hours or slightly over. V. *Mannitol hexanitrate.*—Eight observations with Martindale's chocolate tablets. 1. Produced a vaso-dilator action in about 15 minutes. 2. Produced a fall of 35 millimetres of mercury. 3. Produced a maximum effect in 100 minutes. 4. The pressure remained at its lowest for two hours. 5. The original level was reached in six hours. With each of these nitrites cases occurred where no action resulted. These were all advanced stages of the conditions from which the patients suffered—viz., advanced cirrhotic Bright's disease, advanced inflammatory Bright's disease, advanced arterio-sclerosis, and in addition cases where marked œdema was present. These nitrites in the doses employed were all about equally powerful as vaso-dilators. The difference in their action was seen mostly in the time the pressure remained at its point of maximum reduction and the time in which the complete action of the drug had passed off. With respect to the uses of the nitrites Dr. Matthew said that the action of the nitrite indicated its use. Liquor trinitrini or nitroglycerine was only to be used where a very speedy and at the same time a by no means lasting result was expected. This would be in the relief of such symptoms as usually accompanied hypertension—e.g., headaches, giddiness, pain, epistaxis, &c. The longer-acting nitrites were useful in angio-sclerosis where high blood pressure was present, but the sclerotic process was confined to areas of arteriole and capillary distribution and peripheral sclerosis was not yet evident. They were also very useful in certain stages of cirrhotic and inflammatory Bright's disease. In hypertension the dose should be sufficient to produce a reduction in pressure as shall relieve the symptoms and maintain it over the temporary and periodic elevations that are constantly taking place. This could be obtained with liquor trinitrini in doses of two minims. With sodium and potassium nitrite two grains were found to be the most suitable dose; with erythrol half to one grain should be given with great caution, as Dr. Matthew had found a marked tendency to individual susceptibility to its action. With mannitol hexanitrate a dose of one grain was the most beneficial.—Dr. GIBSON, Dr. MACKENZIE, Dr. RUSSELL, and the PRESIDENT discussed the paper.

Dr. DAWSON F. D. TURNER showed some lantern slides of his own and some lent to him by Dr. A. Reid and Dr. W. J. Ironside Bruce illustrating Some Results of Electrolytic Treatment and of Roentgen Ray Diagnosis. He said that he had continued to use ionic medication in suitable cases and had acquired further experience. In some rodent ulcers zinc electrolysis acted like a charm while in others it failed completely. He did not know the reason for this; it might be that the applications were not long enough or that the current strength was unsuitable. In sinus and fistula the results had been good; in a case under the care of Mr. Dowden, a patient with an intractable sinus following a laparotomy, the sinus completely healed after the introduction of the silver ion. A fæcal fistula in the same way was yielding to the copper ion. Where the zinc ion was unsuccessful copper or silver should be tried. Uniformly good results could be obtained in Dupuytren's contraction but care must be taken not to burn the skin. Passing on to enlarged tuberculous cervical glands, Dr. Dawson Turner said that he had obtained encouraging results by the introduction of the zinc ion; this acted as a microbicidal agent when introduced into the heart of the gland. In spinal cases some benefit would result. Some interesting cases of Roentgen-ray diagnosis were referred to. A case of supposed disease in the antrum was shown to depend upon an unerupted wisdom tooth. A case of supposed tuberculous kidney turned out to be one of calculus. A calculus in the ureter was found to have moved down about six inches within half an hour. Dr. Dawson Turner's method of localising pellets in the eye was described and some beautiful radiographs of a case under the care of Dr. Gibson of acromegaly were exhibited.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Treatment of Extroversion of the Bladder by Transplantation of the Ureters into the Rectum.—Abscess of the Pancreas.—Cancer of the Rectum.

A MEETING of this section was held on Jan. 8th, Mr. JOHN LENTAIGNE, the President, being in the chair.

Mr. C. ARTHUR BALL read a paper on the Treatment of Extroversion of the Bladder by Transplantation of the Ureters into the Rectum. Having discussed the principal theories as to the cause of the condition, Mr. Ball gave an account of the various operative procedures that had been recommended, and expressed the opinion that the safest and most satisfactory procedure was the transplantation of the ureters into the rectum by an extraperitoneal operation. Details were then given of a case in which the operation had been carried out in a boy, aged five years. The child was operated on last July, and the result was satisfactory, the child being in perfect health six months later and having very fair powers of retaining urine in the rectum. Three months after the operation urine could be retained up to three and a half hours and this control had continued to improve since then.—The PRESIDENT desired to know whether it had been proposed to infold the rectum at the point where the ureter entered it, so as to make it less likely to slip out, and to give a broader field for adhesion on the part of the ureter. He congratulated Mr. Ball on the result.—Mr. SETON S. PRINGLE wished to know whether there was any trouble in keeping the peritoneum back and seeing what was being done.—Mr. BALL, in reply, said he did not think infolding of the rectum had been done. In his case there seemed to be no tendency to slip out. He did not see the peritoneum until he first came on the rectum. One would have expected it to get in the way sooner than it did. There was considerable separation of the pubic bones and the pelvic cavity was consequently very shallow, so that the case was ideally arranged for the surgical procedure carried out.

Mr. SETON PRINGLE read a paper on Abscess of the Pancreas, with a report of a case following Acute Gangrenous Pancreatitis. After expressing the opinion that all cases of pancreatitis should be reported, so that a fuller knowledge of the disease might be gained, he gave a detailed account of the case on which the paper was based. The patient, aged 46 years, with a marked alcoholic history, was admitted to hospital on the twelfth day of his illness with signs of peritonitis of the upper abdomen, where a large tumour mass could be felt. Operation was performed immediately, and a large abscess was found in the lesser peritoneal sac; the edges of the opening into the abscess were sutured to the parietal peritoneum, and a large drainage-tube was inserted. There were numerous patches of fat necrosis in the omentum and a small quantity of bloody fluid in the larger sac of peritoneum. The patient progressed favourably for a few days but gradually lost strength and died on the twelfth day after operation. The urine, several days after operation, gave a marked Cammidge "C. reaction." At the necropsy it was found that the head and body of the pancreas had sloughed, only the tail surviving; no gallstones were discovered. Mr. Pringle then discussed the etiology of the case and expressed the opinion that the pancreatitis in his patient was the result of alcoholic gastro-duodenal catarrh. After enumerating the various forms in which suppuration might occur in the pancreas, he gave a short

account of the methods of treatment at present employed, and concluded by drawing attention to the fact that only some 16 cases of operation for pancreatic abscess were recorded in the literature.—The paper was discussed by the PRESIDENT, Mr. H. STOKES, Mr. A. J. McA. BLAYNEY, and Mr. BALL, and Mr. PRINGLE replied.

Mr. W. I. DE C. WHEELER being absent, his paper on the Choice of Operation in Cancer of the Rectum was read by the Secretary.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Jan. 8th, Mr. E. Sergeant, the President, being in the chair.—A discussion was introduced by Dr. W. G. Savage upon the Scientific Control of Diphtheria. He pointed out that diphtheria stood out in striking contrast to many other infectious diseases because not only was its microbial origin fully proved but bacteriological diagnosis was sufficiently elaborated to enable the presence of the bacilli to be detected readily and reliably, while in addition a curative serum was available. The prevention of diphtheria was practically one in regard to which their knowledge enabled them to submit a definite scientific scheme of control. The disease was only acquired directly or indirectly from another case and could not arise from bad drains or insanitary conditions, which might, however, predispose to the disease by lowering the general resistance, but even the evidence of that, in Dr. Savage's opinion, was meagre and inconclusive. The vitality of the Klebs-Löffler bacilli outside the body was not great, so that apart from milk and apart from articles immediately infected by the human case or carrier, such means of transmission were subsidiary and comparatively unimportant. His scheme for controlling and possibly extinguishing diphtheria included facilities for medical practitioners to obtain, free of all cost to themselves, bacteriological diagnosis in regard to suspected cases of the disease; notification, prompt isolation of all cases, and subsequent disinfection after cure; a routine bacteriological examination of the immediate "contacts" and, if considered necessary, of those more remote; the isolation of all contact-carriers until free from bacilli; and the release from isolation of definite clinically recognised cases and of contact-carriers only after a sequence of negative bacteriological examinations had been made. During the past six years there had been examined in Colchester 536 immediate "contacts" and in 46 instances, or 8·6 per cent., Klebs-Löffler bacilli had been found. With respect to the question of hospital *versus* home isolation, Dr. Savage expressed a very decided preference for the former, and in this connexion he pointed out that Section 57 of the Public Health Act Amendment Act, 1907, would prove a valuable assistance to public health administrators. In Colchester there was provided in 1902, on the advice of Dr. Louis Cobbett, a separate house for the isolation of contact-carriers. This was given up in 1906 and the newly erected administrative block of the small-pox hospital was utilised as an isolation home. This arrangement was thoroughly approved of by Dr. Savage who considered that such hospitals were very suitable for the purpose, as they were frequently empty and afforded quite adequate accommodation.—Dr. E. Seaton feared that Dr. Savage's proposal to isolate all known contact-carriers would be considered an undue interference with the liberty of the subject and regretted that the influence of insanitary surroundings did not receive greater recognition.—Dr. A. Griffith said that since Dr. Savage's method had been carried out in Hove no real outbreaks of diphtheria had occurred.—Dr. E. H. Snell felt that he could not advise the isolation of patients actually suffering from diphtheria unless contact-carriers were also isolated.—Dr. J. Howard-Jones referred to the alteration in the type of the disease and emphasised the value of antitoxin as a prophylactic.—Dr. E. W. Goodall agreed that in addition to other measures contact-carriers should be dealt with. He did not consider that antitoxin was an effective prophylactic.—Dr. J. Elliott Robinson and Dr. P. Caldwell Smith expressed the opinion that there was some relation between manurial deposits and outbreaks of diphtheria, and the latter speaker stated that he had found unusual prevalence of the disease in suburban districts where the houses had been built upon land formerly used as market gardens.—In this connexion Mr. Herbert Jones referred to the report which Dr. H. Franklin Parsons made to the Local Government Board in 1893 upon manure nuisances. He (Mr. Jones) considered that it did not suffice to examine bacteriologically material taken from the throats of immediate "contacts" in school children but that every child in a class which had been attended by a diphtheria patient should be submitted to an examination.—Dr. G. Sowden, Dr. J. S. Tew, Dr. S. C. Lawrence, and the President also took part in the discussion.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Jan. 7th, Mr. F. C. Larkin being in the chair.—Dr. D. Smart read a note on a case of Re-infection in Syphilis. The patient acquired syphilis in September, 1904. During the next year he had three courses of treatment by mercurial inunction, each extending over a period of six weeks, the first and last course being carried out at Aix-la-Chapelle. This attack was characterised by marked pigmentary skin lesions. In 1906 he was again exposed to infection and three weeks later he developed a hard chancre, the diagnosis being confirmed at Aix-la-Chapelle where he was sent for further treatment.—Mr. W. Thelwall Thomas read a note on a case of Severe Trigeminal Neuralgia treated by removal of the Gasserian ganglion. The patient, a man, aged 58 years, had suffered from neuralgia for 16 years. All the usual medical remedies had been resorted to but with no benefit. Cushing's operation was performed last June. The ophthalmic nerve was not removed. He has remained quite free from pain since. There is, however, distinct sensation over a large area supplied by the superior maxillary nerve.—Dr. H. H. Clarke read a note on the Differential Diagnosis between Human and Bovine Tuberculosis. He had tried in six of his own cases the modification of Pirquet's cutaneous reaction as suggested at the last International Congress. He considered that his results justified an extended trial of this method.—Mr. R. W. Murray read a note on the after-results in 217 operations performed during the past three years for the Radical Cure of Inguinal, Femoral, and Umbilical Herniæ. No recurrence had taken place in any patient under 40 years of age. Neither truss nor any other support was worn after the operation. Mr. Murray considered the sac to be the essential cause of the hernia, and its complete removal was the particular feature in all the operations.—Dr. W. B. Warrington read a paper on the Natural History of Cirrhosis of the Liver with reference to the value of the Talma-Morison operation. He considered that the disease could be distinguished from other morbid conditions which clinically it partly resembles, such as syphilis, chronic perihepatitis, and peritonitis. True cirrhosis is a rapidly fatal disease when symptoms have declared themselves and the utility of the operation is doubtful.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—At the annual meeting in Manchester on Jan. 15th, Dr. A. J. Wallace (Liverpool), the President, being in the chair, Dr. J. W. Martin (Sheffield) was elected President for the present year; Mr. M. H. Phillips (Sheffield) general secretary; and Dr. W. K. Walls (Manchester), treasurer.—Professor J. Lorrain Smith and Dr. W. Fletcher Shaw (Manchester) communicated a paper on the Pathology of Red Degeneration of Uterine Fibroids. They had examined four specimens, three of which were associated with pregnancy. Staining by Weigert's fibrin method they found extensive thrombosis of the blood-vessels in the red areas of all four specimens, and this they considered to be the essential and characteristic change. There was no evidence of recent or old extravasation of blood. The myomatous tissue was also in a state of atrophy and degeneration, being replaced by a homogeneous substance which stained faintly with eosin. But this form of necrotic softening was very common in fibroids and further observation was necessary to show whether red degeneration ever occurred apart from such a process of necrosis. Excess of fat, as droplets or crystals, was also found. Two of the patients had presented toxæmic symptoms and in each of these cases were found both an active leucocytosis and bacteria in the tumours; staphylococci in one and diplococci in the other. Neither a leucocytosis nor bacteria were found in the other cases. Finally, it was pointed out that redness dependent upon Virchow's angeiomatous degeneration might be present in such a degree that the tumour had considerable naked-eye resemblance to the true red degeneration.—Dr. D. Lloyd Roberts, Dr. H. Briggs, Dr. W. K. Walls, Dr. W. E.

Fothergill, Dr. A. W. W. Lea, and others discussed the paper, and Professor Lorrain Smith, in reply, expressed his opinion that the bacterial infection was secondary to, and predisposed to by, the thrombosis; that the excess of fat was dependent upon arrest of absorption resulting from the thrombosis, and that pregnancy, by mechanically hampering the circulation in the tumour, and the puerperium with its increased coagulability of the blood, were possibly predisposing factors in the causation of red degeneration.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 7th, Mr. R. F. Jowers, the President, being in the chair.—Dr. G. William Hill, aural surgeon to St. Mary's Hospital, London, gave a most interesting demonstration of Laryngoscopy and Bronchoscopy under Cocaine. He showed what an excellent view of the larynx could be obtained for intralaryngeal operations and let everyone present see the bifurcation of the trachea in two patients. (Dr. A. J. Hutchison, Dr. Eliot Curwen, and Mr. A. J. Martineau brought up cases for the demonstration.) Dr. Hill then related the history of the direct method and showed various instruments used for operating, removal of foreign bodies, and for sucking mucus from the trachea during operation. He also showed the tubes for œsophagoscopy.—The President showed a man upon whom he had performed the operation of Omentopexy for Ascites due to Cirrhosis of the Liver at the request of Dr. E. Hobhouse. Previously to the operation tapping was necessary every two weeks; since the operation two months ago the man had only once been tapped and there had been no reaccumulation of fluid.—Dr. Walter Broadbent showed a girl admitted to hospital with Mitral Regurgitation and a very Rapid Pulse who developed an aortic diastolic murmur without any rise of temperature above 99° F.

Reviews and Notices of Books.

Operative Midwifery. By J. M. MUNRO KERR, M.B., C.M. Glasg., F.F.P.S. Glasg.; Obstetrical Physician, Glasgow Maternity Hospital; Gynæcologist, Western Infirmary. London: Baillière, Tindall, and Cox. 1908. Pp. xii.–705, with 294 original illustrations. Price 21*s.* net.

IN the preface to this book Dr. Munro Kerr tells us that he has modelled it on the lines followed by Barnes in his classical lectures on Obstetric Operations and by Herman in his book on Difficult Labour. When we recalled with how much pleasure we had read these two works we commenced the perusal of this book in the anticipation that the disciple would prove worthy of his masters and we may say at once that we have not been disappointed. Dr. Munro Kerr has written a most interesting text-book well worthy of comparison with any other work of the kind in any language. As he points out, since the days of Barnes great changes have taken place in obstetric medicine, changes which, including as they do the introduction of antiseptics, the revival of symphysiotomy, and the development of the modern Cæsarean section, have their parallel only in the revival that followed the scientific teaching of Ambrose Paré. The book is a large one of more than 700 pages and it suffers to some extent from a tendency to discursiveness on the part of the author, together with a certain amount of repetition. It is, however, written in a pleasant and easy style and is therefore interesting to read.

In Glasgow a large number of cases of contracted pelves and of difficult labour occur in the maternity hospitals of that city owing to the very common occurrence of rickets among the poor. The large amount of operative experience which has fallen to the lot of Dr. Munro Kerr and the very excellent use which he has made of it are abundantly illustrated in these pages. If we were to attempt to point out the main principle which seems to us to animate the author in all his teaching, it would be that the difficulties met with in the practice of midwifery are largely to be overcome by an intelligent anticipation of their occurrence and that when such difficulties do arise during the course of a confinement in many instances the conduct of that particular case has been faulty. Nowhere does the author insist more strongly on this principle than in the consideration of the proper use of the midwifery forceps. Again and again he points out the fact, only too often forgotten, that the forceps is not intended to be used to pull the child by brute force through the pelvis, a purpose for which frequently and quite improperly it is used. It is by a complete knowledge of their causation and an intelligent anticipation of the possibility of their occurrence that difficult confinements are to be avoided and no one can read this book without having that important principle well inculcated in his mind.

In discussing the treatment of face presentations the author favours their being left alone and no attempt being made to convert them into a vertex presentation, although if this is to be attempted he recommends Thorn's method and states that at the Glasgow Maternity Hospital in 65 per cent. of the cases conversion has been successful. In the section on the diagnosis of this presentation we think that hardly sufficient stress is laid on the importance of feeling for the opening of the nares which are nearly always recognisable and much more characteristic of the face than the alveolar processes. In the attempt to diagnose twins Dr. Munro Kerr advises caution and personally he decides on the presence of a plural pregnancy only when he feels two heads. An interesting chapter on dystocia due to double monsters is contributed by Dr. J. W. Ballantyne.

The great frequency of pelvic deformity among the indoor patients at the Maternity Hospital in Glasgow is shown by the statement that it is found in no less than 30 per cent. of the cases. The accurate estimation of the relative size of the fœtal head and that of the mother's pelvis is insisted upon strongly in the chapter on the treatment of contracted pelves, and the author's method of determining these factors is clearly described and illustrated. The great importance of allowing spontaneous delivery to take place whenever possible in these cases is proved both from the author's own experience and from a table drawn up by Krönig from the Leipsic klinik of Zweifel, and Dr. Kerr points out how often this occurs even after a very prolonged second stage with the most favourable results both to the mother and to the child.

A very interesting feature of this work, and one which renders it especially valuable, is that the author does not fail to state his conclusions very definitely after a careful survey of his own experience and that of others. The chapter on the induction of premature labour affords a good example of this. Dr. Munro Kerr confesses that he is disappointed with the results of this operation and does not recommend it when the conjugata vera is below three and a quarter inches or above three and a half inches. In cases with a conjugate between these measurements as careful an estimate as possible is made of the relative size of the fœtal head and of the pelvis and then a decision is come to as to the best means of treating them. In dealing with the treatment of fibromyomata of the uterus complicating pregnancy the experience of all obstetricians of any experience is amply confirmed that any operative interference during pregnancy is seldom called for. A very good account is given of the advantages and dangers of symphysiotomy and pubiotomy and the conclusions arrived at are that symphysiotomy is indicated in a flattened pelvis when the second stage of labour has been allowed to go on as long as possible, and two attempts using but moderate traction have been made with the forceps to deliver the patient in the Walcher position and it is

found that the forceps just fails under these conditions to bring the child through the pelvis.

That the author does not speak without experience is shown by the fact that he has performed Cæsarean section in 62 cases with a maternal mortality of 6, or 8 per cent., and symphysiotomy on nine occasions with no maternal deaths. He is not convinced that publotomy is better than symphysiotomy. In the table giving the results of Cæsarean section in the practice of some British operators we are surprised to find no mention of the very excellent figures recorded by Dr. W. J. Gow in the Harveian lecture, March, 1907—namely, 37 operations for contracted pelves up to the end of December, 1906, with no maternal death. Dr. Munro Kerr advises careful preparatory cleansing of the vagina when the conditions are favourable and the patient is in a hospital or nursing home (he operates before labour has set in whenever possible), and makes a long abdominal incision and turns the uterus out of the abdomen before opening it.

In discussing the necessity for occasionally performing the operation of craniotomy the author takes up the sensible position—one, indeed, assumed by all English obstetricians—that this operation must at times be performed and is often indicated in the best interests of the mother. It is true that the maternal mortality at the Glasgow Maternity Hospital has been abnormally high—namely, 12·6 per cent.—but then this is explained by the fact that in the fatal cases infection of the parturient canal had taken place before the admission of the patient into the hospital, not a single death occurring in the cases which had been admitted into the wards uninterfered with.

There are many other points of interest in this work which we might mention but we refer our readers to the work itself, since it is one which should be read by everyone practising or teaching this important subject. One of the most commendable features in this book is the number of references given to the literature of the subject, and another is the very full recognition of the work done in this branch of medicine by the British school of obstetricians.

The illustrations are excellent and numerous and the paper and binding are good. The whole work is one of the greatest merit and will much enhance the high reputation which Dr. Munro Kerr already holds among those who know the good work which he has done, and we congratulate most heartily the author and the school to which he belongs on its publication.

The Student's Handbook of Physiology. By the late A. CLARKSON, M.B., C.M. Edin., and DAVID A. FARQUHARSON, M.B., C.M. Edin., Professor of Physiology, St. Mungo's College, Glasgow, and Royal Dick Veterinary College, Edinburgh. Edinburgh: E. and S. Livingstone. 1908. Pp. 786. Price 12*s.* net.

IT appears that this work was begun by the late Dr. A. Clarkson and was completed by Dr. Farquharson who is responsible for some of the sections on the special senses and the chapter on the central nervous system. There is a large number of illustrations; many of them are reproductions from British and Continental authorities. The work is written on the usual lines and begins with an account of the chemical constituents of the body. We are told that the crystals of hæmoglobin "are light yellow in colour and may be prepared by mixing a drop of blood with a little water on a slide." In describing Gowers's hæmoglobinometer it is stated "20 cm. of blood is withdrawn." The same confusion of linear and cubic measures occurs elsewhere. We find on p. 33 this expression, "rouleau are formed." Under the head of Muscle undue importance is given to the views of Rutherford; we were unable to find the theory of Engelmann. Kühne is printed as Kuhne more than once and Howship is made responsible for "foreoli." The well-known "organ of Eimer" in the nose of the mole becomes "Rimer's organ," Stephen Hales appears disguised under the title of "Hale's method," and so forth.

As to the illustrations, some are not attributed to their proper and original sources. The diagram of the curara experiment—and it is not correct—should be assigned to Rutherford and not to Clarkson; the diagram on excitability and conductivity of nerve—Grünhagen's experiment—is put as Clarkson's, and so are others which are either copies or indifferent modifications of similar diagrams in well-known works on physiology, such as the diagrams on the heart nerves and other subjects in Foster's Physiology. The diagram of Scharling's apparatus is given by Landois with exactly identical lettering, and practically the same may be said of the diagram of Mosso's plethysmograph and the scheme of Ludwig's kymograph, even again to the lettering. The diagram given to illustrate aphasia is practically the well-known diagram of Ross.

There is more space given to histology than is usual in physiological works. We cannot say that we can commend the following: methæmoglobin may be "prepared artificially by the action of ferrocyanide of potassium," nor is hæmatoporphyrin "composed of CHNO." We looked in vain in the chapter on digestion for an account of the modern developments on this subject. Erepsin and enterokinase are conspicuous by their absence. The discarded views as to the action of trypsin and pepsin, of antipeptone and hemipeptone, are still served afresh. Lipase finds no place. The recent work of Chittenden on Diet does not seem to be included. When treating of caseinogen it is stated not to yield bodies of the purin ($C_5H_4N_4$) or xanthin series. What does the $C_5H_4N_4$ mean? All the most important purin or alloxuric bodies except adenine contain oxygen.

In conclusion, we can only say that the book appears to us to be mainly a compilation. There is no preface of the usual kind by either of the authors and the only thing in the nature of such is the "publishers' preface."

Diseases of the Eye. (*Oxford Medical Publications.*) By M. STEPHEN MAYOU, F.R.C.S. Eng., late Hunterian Professor, Assistant Surgeon and Pathologist to the Central London Ophthalmic Hospital. With 119 original illustrations and 8 coloured plates. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 388. Price 5*s.* net.

THOUGH this book belongs to the class of "cram books" it is a favourable specimen. It is impossible in a small book, printed in good type and well spaced, with numerous illustrations, many of which take up half the page, to write a satisfactory manual of the diseases of the eye. Such as it is, however, it is written in a scientific manner and is not a mere piece of book-making for ulterior purposes. As might be expected from the writer of the Jacksonian prize essay on the Conjunctiva, the chapter on the diseases of this membrane is the best. The others are very good within the restricted limits which the author has set himself. The book is well printed and special praise must be accorded to the illustrations, many of which, we are pleased to see, are devoted to pathological anatomy. For the sake of the student and in order that they may be corrected in future editions we may be permitted to point out some more than trivial slips. On p. 36 the author goes farther than is warranted even by a hilosophical theory of the identity of opposites when he regards zero and infinity as the same. The minimum visual angle is twice given as five *degrees* instead of minutes (pp. 35 and 56), and the preceding paragraph on p. 35 is inaccurate. The statement that "the (Koch-Weeks) bacillus is the commonest cause of purulent ophthalmia" is likely to lead to ambiguity; the term *purulent* is best reserved for the

severer forms of conjunctivitis caused by the gonococcus and some other organisms. No instructions are given as to *how* the lids should be separated in ophthalmia neonatorum and allied conditions, a very serious omission. No mention is made of blepharospasm or the use of yellow oxide of mercury ointment in treating of phlyctenular conjunctivitis. Filaria does not cause cysts of the conjunctiva (p. 121). Bowman's membrane is not an *elastic* membrane (p. 126). The circular and longitudinal fibres of the ciliary muscle are not external and internal respectively (pp. 158, 159), but the opposite. Cilio-retinal vessels are derived from the scleral, not the choroidal, vessels (p. 160). The canal of Schlemm is a venous, not a lymph, passage (p. 161). Sensory stimuli cause dilatation, not contraction, of the pupil (p. 162). "Major," on p. 165, should be "minor." The secondary optic vesicle is the invaginated primary optic vesicle, not the lens (p. 164). We should not have enumerated these errors if we had not considered that the book otherwise contains sound teaching which is presented in a manner based upon the best foundations.

Physiothérapie. Par les Docteurs FRAIKIN, GRENIER DE CARDENAL, CONSTENSOUX, TISSIÉ, DELAGENIÈRE et PARISET. (Bibliothèque de Thérapeutique, publiée sous la direction du Professeur A. GILBERT et du Professeur Agrégé P. CARNOT.) Paris: Librairie J. B. Baillière et Fils. 1909. Pp. 404. Prix 8 francs.

OUR reverence for the Hippocratic tradition is largely based upon its recognition of the intimate relation of external physical forces to the healthy life of man and upon its simple rules for their systematic application for the relief of disease. Since the days of the Father of Medicine the development of the physical sciences has extended the number of forces available for that purpose, and to a much greater degree the methods of their therapeutic application. The late Lord Kelvin, indeed, paid this distinguished compliment to modern medicine, that it is ever ready to borrow newly gained knowledge from the physicists to use it for the relief of human suffering before they themselves have begun to appreciate its significance to the science which gave it birth. As a result of this combined activity of physicist and physician, within the last few years we have received not a few works by British and American authors dealing with the modern development of the "natural therapy" of the ancients. In the book before us six French physicians and surgeons of repute present in collaboration a concise and authoritative exposition of the system of physico-therapeutics which has attained an established position in their country, leaving aside, however, the methods of treatment by electricity and radiant energy.

The first section of the book is by M. A. Fraikin and Dr. Grenier de Cardenal, and deals with mechano-therapy. It is occupied principally with a description of those formidable appliances which must surely make the first visit to a well-equipped orthopædic hospital a very solemn affair to a modern child of the meanest imagination but which are of a certain proved value as adjuvants to the older gymnastic systems in the correction of deformities whilst the body and limbs still retain some measure of plasticity. The machines which we owe to Zander's ingenuity, intended for the progressive passive manipulation and graduated active movement of joints bound by adhesions or impaired by other pathological states, and other contrivances for the mechanical rubbing of various regions of the body are also described. The former class is undoubtedly of great service but we fancy there is a tendency to over-complicate the latest system of applying massage. Surely the average patient would prefer the ministrations of a pair of trained hands to the assaults of the apparatus figured on p. 39, which looks like an automatic boxing machine and is designed for "frottement circulaire de l'abdomen," a machine to which we can hardly imagine any private practitioner giving house room.

In the next section Dr. G. Constensoux deals with the motor re-education of tabetics. His directions are greatly helped by the illustrations, as are those in the succeeding chapter on "The Therapeutics of Games and Sports" in which we catch the clearest echo of the Grecian teaching for the prevention of disease. Dr. Tissié, who is responsible for it, deals with walking, climbing, athletics, hunting, swimming, rowing, riding, winter sports, and the various English ball games. He is an enthusiastic advocate of football as developing "will-power, character, judgment, intelligence," no less than fitness of body. For him the game is "L'image de la lutte pour la vie." We are doubtful whether medical golfers will accept another definition as equally happy, for it runs "Le jeu de golf est un jeu de croquet modifié, s'étendant sur plusieurs centaines de mètres." The calisthenic merits of fencing and dancing naturally receive due attention from a French author. M. H. Delagenière follows with a practical chapter upon Bier's methods of treatment by passive hyperæmia. This completes the first half of the book. The second part, by Dr. Pariset, deals thoroughly with hydrotherapy and also considers the ancillary employment of light and heat in medicine. The various kinds of baths, jets, sprays, and douches in use, with the indications for their employment, are described in a manner which will commend itself to the practitioner who has no expert knowledge of balneology. It is greatly to be regretted that in our own country this system of treatment, the value of which was well recognised by the ancients, is, as a rule, available only for the well-to-do classes or for poor patients eligible for hospital relief.

LIBRARY TABLE.

Handbook for Wives and Mothers in India. By MILDRED E. STALEY, M.B. Lond., L.M., Physician in Charge, Lady Aitchison Hospital for Women, Lahore. Calcutta: Thacker, Spink, and Co. London: W. Thacker and Co. 1908. Pp. 332. Price 4*s.* 6*d.* net.—This little book cannot fail to be useful to those women who are compelled to live in India. Only too often the young wife taking up her residence in that country is quite ignorant of many important matters concerned with the maintenance of her health in the Indian climate, and although when she has to rear up children she has often learnt experience yet it may have been at a bitter price. The subject of this book embodies the results of many years' experience in India, and it is intended not only for wives and mothers but also for nurses and others who in these countries are oftentimes left alone to face difficulties and responsibilities for which their training has not sufficed to prepare them. It is divided into four parts: the first treats of such matters as general and personal hygiene and some of the commoner diseases of India; the second part is devoted to the prevention of women's diseases; the third is concerned with pregnancy and parturition; and the fourth part with the management and care of newly born infants and young children. Dr. Staley has written an eminently practical book and has succeeded in giving plainly and succinctly such an amount of information on the different matters about which she writes as is suited to those who are likely to be her readers. We can cordially recommend this little handbook to any women whose lot may take them to India or other tropical countries.

Obstetric and Gynecologic Nursing. By EDWARD P. DAVIS, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia. Third edition, revised, London and Philadelphia: W. B. Saunders Co. 1908. Pp. 436. Price 8*s.*

net.—This excellent book has now reached its third edition. Professor Davis has taken the opportunity to carry out a thorough revision and has added some new material, so that the present edition contains some 30 pages more than the last one. This we regard as unfortunate, as the book was already quite long enough and certainly contained a most complete account of its subject. Originally written for the nurses of the Jefferson Maternity it must by now appeal to a much wider public. It is a good example of this class of book and contains a large amount of practical information on both obstetrical and gynæcological or, as the author terms it, gynecologic nursing. A number of new illustrations have been added to this edition and our survey of the book enables us to say that the revision has been carried out well and thoroughly.

The Bacteriology of the Eye. By Dr. THEODOR AXENFELD, Professor of Ophthalmology in the University of Freiburg. Translated by ANGUS MACNAB, B.A., B.Sc. New Zealand, M.B., Ch.B. Edin., F.R.C.S. Eng., Chief Clinical Assistant, Royal London Ophthalmic Hospital. With 87 illustrations, some of which are coloured, and three coloured plates. London: Baillière, Tindall, and Cox. 1908. Pp. 402. Price 21*s.* net.—We have already reviewed the German edition of this book which is essential to all advanced workers in ophthalmology. The translation has been well done, though the involvement of some of the sentences betrays their German origin and there is an irritating superfluity of commas. The most important fact, however, is that it is accurate. The book is beautifully printed and produced, comparing most favourably in its typography with the German original. It has the further advantage of new matter, certain parts of the text having been extended by Professor Axenfeld and the references to a number of later publications included. Mr. MacNab deserves the thanks of ophthalmologists for undertaking the laborious task of translating so large and important a work.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by Sir E. RAY LANKESTER, K.C.B., F.R.S., with the coöperation of ADAM SEDGWICK, F.R.S., SYDNEY J. HICKSON, F.R.S., and E. A. MINCHIN, M.A. With lithographic plates and text figures. New Series, No. 209 (Vol. LIII., Part 1). London: J. and A. Churchill. November, 1908. Price 10*s.*—The contents of this number are limited to one article, entitled "Early Ontogenetic Phenomena in Mammals and their Bearing on our Interpretation of the Phylogeny of the Vertebrates," by A. A. W. Hubrecht. The article is illustrated by no less than 60 plates and 160 figures. M. Hubrecht commences his essay by describing the earliest cell layers as exemplified in Monodelphian and Didelphian mammals, in Ornithodelphian mammals and Sauropsida, and in Ichthyopsida, criticising the statements of Eternod and Schlater. He then proceeds to the consideration of the further development of the two germ layers of the vertebrates up to the appearance of the somites, confining himself to the mammalia, amphibia, sauropsida and ornithodelphia, and fishes. He points out that before the ectoderm and entoderm have become differentiated in mammals there is a distinct larval cell layer surrounding the mother cells of the embryonic tissues. This, which is visible in the morula stage and is derived from the ectoderm and contributes to the subsequent formation of amnion and chorion, is named the trophoblast and is shed at birth. After the delamination into ecto- and endo-derm is effected and the gastrula stage is arrived at, changes and developmental processes take place which are named collectively "notogenesis," to be succeeded by others known collectively as "kephalogenesis." The author then goes on to describe the phylogenetic processes by which out of the primitive trophoblast the different fœtal envelopes are evolved and how some of these become vascularised in various ways and thus lay the foundation of the placenta, a structure that is so characteristic of the mammalia as opposed to the lower vertebrates. The conclusions as to the phylogeny of the vertebrates to which he has been led are to the following effect. The diagrammatic type for a representative of the vertebrate phylum would be a bilaterally symmetrical segmented cœlomate animal with the gut below and the central nervous system above the axial notochord. Following Sedgwick, he derives this type from an elongated actinian-like ancestor, the circumoral nerve-ring of which becomes the central nervous system, while the stomodæum, the notochord, and the cœlom are considered to have arisen out of the peripheral parts of the cœlenteron. The author, after some further remarks indicating the importance of the study of the early developmental stages of mammals and amphibia in preference to the cartilaginous fishes or amphioxus, appends an excellent bibliography.

The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, M.D., F.R.S., ; J. ROSE BRADFORD, M.D., F.R.S. ; A. E. GARROD, M.D. ; R. HUTCHISON, M.D. ; H. D. ROLLESTON, M.D. ; and W. HALE WHITE, M.D. Vol. II., No. 6. January, 1909. Oxford: At the Clarendon Press; London, New York, and Toronto: Henry Frowde. Subscription price 25*s.* per annum. Single numbers 8*s.* 6*d.* net. —The contents of this number are: 1. A paper on Hysterical Paroxysmal Œdema, by Dr. F. H. Edgeworth, in which a group of cases is described, characterised by the repeated occurrence of transitory œdema affecting "geometrical" or "segmental" areas of the body surface, associated sometimes with disturbance of sensation of hysterical type. They are differentiated from Quincke's œdema and regarded as being allied to hysterical chronic œdema. 2. A short note on the Venous Pulse in Paroxysmal Tachycardia, by Dr. John Cowan, Dr. David McDonald, and Dr. Robert I. Binning. 3. A paper by Dr. T. Addis on the Effect of the Administration of Calcium Salts and of Citric Acid on the Calcium Content and Coagulation-time of the Blood. As a result of numerous experiments Dr. Addis arrives at conclusions at variance with those of Sir Almroth Wright, since he finds that the coagulation-time of the blood is unaffected by the administration by the mouth of soluble calcium salts or of citric acid, and that the amount of ionisable calcium in the blood is increased by the administration of soluble calcium salts by the mouth, and is diminished by the administration of citric acid, but the increase or decrease which is thus brought about is considerably less than the variation in the calcium content which is necessary before any appreciable effect is produced on the coagulation-time. 4. A paper on Congenital Family Cholæmia, by Dr. Herbert P. Hawkins and Mr. Leonard S. Dudgeon. They conclude that the primary change in this disease lies in the blood-forming and not in the biliary system and that it is probably a congenital "familial" defect. They did not find any improvement under treatment by arsenic in this condition. 5. Notes upon the Cardio-respiratory Murmur and its Relationship to other Physical Signs, by Dr. Thomas Lewis. 6. A paper on the Prodromal Rashes of Small-pox, by the late Dr. R. S. Thomson and Dr. John Brownlee. This contains an interesting study of the various prodromal rashes seen in cases of small-pox at Glasgow during ten years. The paper is illustrated by three coloured plates and comprises an account of the literature of the subject from the earliest times till the present day. 7. A paper on the Speed Limit of the Human Heart, by Dr. Arthur F. Hertz and Dr. Gordon W. Goodhart.

The patient on whom the observations recorded were made was a woman, aged 39 years, in whom the rate of the beat of the auricle hardly varied from 234, and that of the ventricle only slightly from 80 per minute when the patient remained quietly in bed. It is suggested that the auricle was entirely free from nervous control and that it was beating at its speed limit. 8. A paper by Professor William Osler on Chronic Infectious Endocarditis, in which a form of endocarditis is differentiated characterised by protracted course and prolonged fever. The cardiac features of the cases are, as a rule, well marked, but there are no symptoms. Short histories are given of ten cases of this condition. 9. A Critical Review of the Pathology of Uræmia, by Dr. Frederick L. Golla. The various physical and chemical theories which have been put forward are described and Dr. Golla records his own observations concerning the amount of trimethylamine in the blood and urine of normal and uræmic persons. He also gives a bibliography extending to 64 references.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

(1) COCILLANA COMPOUND SYRUP; (2) CODRENINE R X B; (3) STROPHANTHONE; (4) FORMANGANATE DISINFECTOR; AND (5) GLASEPTIC ALL-GLASS HYPODERMIC SYRINGE.

(PARKE, DAVIS, AND CO., BEAK-STREET, REGENT-STREET, LONDON, W.)

1. Cocillana is described as a South American drug possessing the diaphoretic properties of ipecacuanha, besides exerting a tonic and laxative action. In the compound syrup which is mentioned as a valuable bronchial sedative are also menthol, heroin, squill, senega, and antimony tartrate. The formula is a complex one, for in addition to these ingredients there are included as a respiratory stimulant euphorbia pilulifera, as an anodyne and antispasmodic wild lettuce, and as a tonic laxative cascarin. The syrup is by no means disagreeable to the taste and is supplied only for dispensing purposes. 2. Codrenine R X B contains 1 per cent. of cocaine hydrochloride with a 1 per 5000 solution of adrenalin chlorine in normal saline solution. An ampoule of 0·5 cubic centimetre contains sufficient for use in dental extractions. For infiltration anæsthesia over a large area it is commonly diluted with nine times its volume of normal salt solution. 3. Strophanthone is a fluid preparation of strophanthus but is of twice the strength of the B.P. tincture. It is standardised by physiological tests, while it is preserved by means of a small quantity of chloretone which, of course, has some sedative effect. 4. The formanganate disinfector comprises some briquettes of potassium permanganate and a bottle of formaldehyde solution. The contents of the bottle are placed in a pail of about two gallons capacity. The permanganate briquettes are then placed in the liquid, when a reaction steadily proceeds, formaldehyde gas being disengaged. The method is obviously convenient and effective in view of some tests which we made. 5. The glaseptic all-glass syringe is made of a specially toughened glass which seems successfully to resist breaking by ordinary means. It can readily be sterilised in the metal case in which it is supplied. The barrel is engraved with a bold graduated scale; the piston is of dark glass, while the graduations stand clearly in relief against the back of the barrel which is of opal colour marked with a blue stripe. The reading of the quantity of injected fluid can thus be made easily and correctly. The syringe is adapted for hypodermic injections, for vaccines, and for administering serum.

JAMS IN VACUUM BOTTLES.

(F. DUERR AND SONS, OLD TRAFFORD, MANCHESTER.)

We have examined a number of jams preserved in glass bottles with a vacuum top. The lid can only be removed by cutting a hole in it, when the vacuum being filled the lip can easily be removed. This method of bottling jam may be highly approved, since without the aid of chemical preservatives the jam keeps in a sound condition indefinitely. We could find no trace of moulds on the surface of the jams and there is no need to place on the jam a parchment cover. We examined the jams for preservatives but found none present except sugar which, by the way, is guaranteed to be cane. We found a minute trace of copper in the jam, derived probably from the boilers; the amount, however, was quite negligible. The quality of the jams was excellent and altogether evinced the exercise of scrupulous care in regard to their manufacture and preservation.

BARLEY WINE.

(MESSRS. BASS, RATCLIFF, AND GRETTON, LIMITED, BURTON-ON-TRENT.

The analysis of this strong ale gave the following results: alcohol by volume, 10·30 per cent.; malt extractives, 9·42 per cent.; mineral matter, containing 0·13 per cent. of phosphoric acid, 0·55 per cent.; proteins, 1·17 per cent.; malt sugar, 3·33 per cent.; and dextrin, 6·90 per cent. As our analysis shows, this malt liquor is what the brewers call a "high gravity beer"—that is to say, it contains a very high percentage of malt extractives. Amongst these extractives, in addition to dextrin and malt sugar, must be reckoned as of importance from the dietetic point of view the protein which amounts to over 12 per cent. of the malt substance. It cannot be doubted, therefore, that the beer possesses a decidedly nourishing value and more so than many so-called nourishing stouts which we have examined. The beer was in excellent condition, free from hardness or acidity and from excess of gas. It is a very palatable malt liquor, having an attractively rich malty flavour.

CLEAR WHISKY, RED CROSS BRAND.

(MACKIE AND CO., LIMITED, 217, WEST GEORGE-STREET, GLASGOW.)

We have not hitherto examined a whisky which contains so trifling an amount of extractive matters as, according to our analysis, does this specimen. The whisky is practically without colour; it is not as colourless as is gin but shows a slight yellowish shade. This small amount of extractives is ascribed to the fact that the spirit has been matured not in sherry but in plain oak casks. Judging from the smooth and soft flavour of the whisky, we are quite prepared to accept the statement that it has been thoroughly matured. Our analysis of the spirit gave the following results: alcohol by volume, 47·13 per cent.; extractives, 0·05 per cent.; and volatile acidity, a trace. In regard to the secondary products, their amounts indicated that the spirit is a blend of pot and patent still, matured spirit having been used in each case. The ethers amounted to 56 parts per 100,000 parts of alcohol present, the furfural to 1 part, the aldehyde to 20 parts, and the higher alcohols to 132 parts. The flavour is delicately malty and free from harshness.

(1) GLIDINE; AND (2) IODOGLIDINE.

(MENLEY AND JAMES, LIMITED, MENLEY HOUSE, FARRINGDON-ROAD LONDON, E.C.)

1. Glidine is described as a pure vegetable protein food containing lecithin and practically free from carbohydrates. We can make no objection to this description in view of the results of our own analysis of this interesting substance. Glidine is a yellowish-white crisp powder which is practically insoluble in water. According to our analysis it contains over 90 per cent. of protein, associated with which is the phosphorus of lecithin. The mineral matter amounted to 0·30 per cent. and consisted apparently entirely of phosphates. There was only a slight reaction for starch when tested with iodine. Ether extracted a small amount of oily substance which would include probably the lecithin. The feature of the

preparation is the high proportion of the vegetable protein which it contains, and in this respect it resembles the separated gluten of wheat flour. There can be little doubt that it possesses a high nutrient value and it should be useful for enriching food poor in albumin. 2. Glidine appears to form a loose compound with iodine and this has suggested a means of administering iodine which might have advantages over the administration of ordinary iodides. According to some of the reports which we have read this appears to be the case and iodine may thus be administered with decided therapeutic effect but without the symptoms known as iodism being produced.

AKOLL BISCUITS.

(HUNTLEY AND PALMER, READING.)

Having regard to the immediate object for which these biscuits were made we are bound to consider them a success. They are, in our opinion, as palatable as an ordinary biscuit, yet the starch has almost been completely replaced by protein and fat. We found only traces of starch present, while the protein amounted approximately to 60 per cent. The biscuits therefore supply an article of food which, while acceptable from the point of view of palatability, are at the same time adapted to the requirements of those patients who in the practitioner's opinion should eschew carbohydrates.

ÆSCULAP NATURAL APERIENT WATER.

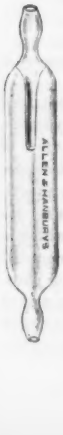
(INGRAM AND ROYLE, LIMITED, EAST PAUL'S WHARF, 26, UPPER THAMES-STREET, LONDON, E.C.)

Æsculap water has now been under the notice of the profession for a number of years, a fact which has earned for it a reputation as a trustworthy purgative saline water. In some measure this reputation may be referred, for one thing, to the constancy of its composition, which means that a constant therapeutic response is obtained on its being administered. A recent analysis which we have made reveals again its constancy of composition. Its analysis was as follows: total mineral salts per litre, 38·60 grammes; magnesium sulphate, 19·80 grammes; sodium sulphate, 13·56 grammes; sodium carbonate, 0·53 gramme; sodium chloride, 2·74 grammes; and calcium sulphate, 1·97 grammes. The specific gravity of the water was 1030. One important advantage of this water is that although it is classed amongst the bitter purgative waters yet it is decidedly less bitter and nauseous to the taste than are some others included in the same category.

New Inventions.

AN APPARATUS FOR INDICATING THE RATE OF FLOW OF SALINE SOLUTION IN SUB-CUTANEOUS AND RECTAL ADMINISTRATION.

IN the administration of saline solution continuously, either per rectum or beneath the skin, the great difficulty lies in knowing whether at any given moment the fluid is flowing and, if so, at what rate. To overcome this I have made the indicator figured below. This is put in circuit with the rubber tube leading from the saline reservoir to the patient. The tube is constructed so that it incloses a volume of air which can neither escape upwards to the reservoir nor downwards to the patient, but does not, however, hinder the flow of the fluid. It consists of a narrow glass tube sealed into the upper end of a larger tube and projecting towards the centre of the latter. As the saline solution flows drops are formed on the end of the inner tube and the fall of these indicates its rate of flow. The inner tube is of such a size that each drop is approximately one minim, and by thus counting the drops per minute the rate of flow can readily be estimated. The number of drops per minute divided by 8 gives the rate in ounces per hour. The indicator should be connected with the rubber tubing shortly after it leaves the reservoir and in such a position that it can hang vertically. A clamp (preferably a screw clamp) is placed on the rubber tubing just below the indicator and the flow is regulated by this. The indicator is of glass and can readily be sterilised in carbolic acid.

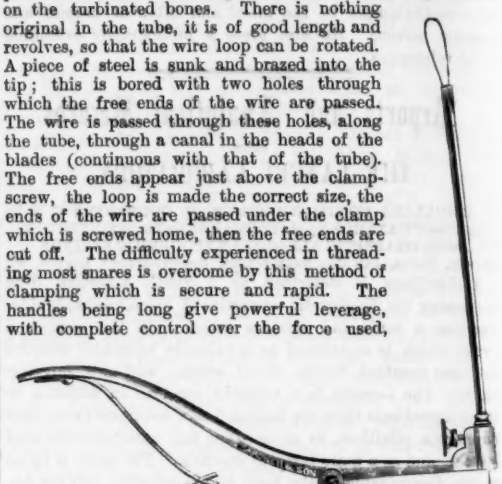


The apparatus has been made for me by Messrs. Allen and Hanburys, Limited, Wigmore-street, London, W.

R. DOUGLAS LAURIE, M.B., Ch.B., Edin.,
House Physician, Royal Hants County Hospital, Winchester.

A NASAL SNARE.

THIS new pattern of nasal snare has been designed to overcome two deficiencies present in most snares—viz., the faulty method of fixing the wire and the lack of control and power which most snares possess when used for operations on the turbinated bones. There is nothing original in the tube, it is of good length and revolves, so that the wire loop can be rotated. A piece of steel is sunk and brazed into the tip; this is bored with two holes through which the free ends of the wire are passed. The wire is passed through these holes, along the tube, through a canal in the heads of the blades (continuous with that of the tube). The free ends appear just above the clamp-screw, the loop is made the correct size, the ends of the wire are passed under the clamp which is screwed home, then the free ends are cut off. The difficulty experienced in threading most snares is overcome by this method of clamping which is secure and rapid. The handles being long give powerful leverage, with complete control over the force used, which I regard as the second improvement. The operator can slowly cut through the toughest piece of turbinated bone, crushing rather than cutting, which lessens the subsequent hæmorrhage as well as the risk of sudden slipping, and unnecessary tearing of tissue.



The instrument can be procured from Messrs. Gardner and Son, Forrest-road, Edinburgh. The diagram is slightly under half-size.

E. DRYBROUGH-SMITH, M.B. Edin.,
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Edinburgh.

TO SAFEGUARD MEDICAL RESEARCH.—In anticipation of an effort of the antivivisectionists to secure legislation against experiments on animals the New York State Medical Society has issued a circular to the medical profession of the State urging that measures should be taken to prevent the passage by the legislature of an Act to restrict research by that means. Last year the Society for the Prevention of Abuse in Animal Experiments introduced into the legislature a measure seriously restricting experiments on living animals and resorted to every available means to secure its passage, but was defeated only after the most strenuous efforts on the part of the profession of the State. The subject of vivisection has become one of the popular questions of the day in New York owing to the opening of the Rockefeller Institute for Medical Research. The passage of a law restricting experiments on animals of the nature of that before the legislature at its last session would seriously cripple the work of that institution.

THE LANCET.

LONDON: SATURDAY, JANUARY 23, 1909.

Unqualified Practice at Home and Abroad.

ANY members of the British public who may be roused to interest in the question of protecting themselves and their fellow citizens against the dangers arising from the practice of medicine and surgery by unqualified persons will probably wish to be informed at the outset whether any other state of affairs than that to which they are accustomed is reasonably possible. They are likely also to meet with a section of their neighbours who will maintain that full-grown men and women in a free country must of necessity be left to select for themselves the agents to whom they shall intrust the care of their personal health and they will find themselves in need of a reply to the familiar "*non possumus*" which so often blocks the way to reform at an early stage. To take an instance from everyday life, many men are familiar with the tendency in a long-established social club to deny the possibility of an alteration in its rules, proposed possibly by a junior member, when confidence in the practical aspect of the proposal can only be established by pointing to half a dozen kindred institutions which have adopted it with success or which, having been recently founded, have never known any other condition. In a similar manner with regard to the restraint of unqualified practice the concrete examples furnished by foreign States and modern colonies are likely to prove more convincing as to the question of practicability than abstract reasoning or speculation, which are liable to be confronted by the suggestion of imagined difficulties. It may be remembered also that although Britons do not as a rule trouble themselves with the domestic legislation of the countries which they visit as long as it affects their inhabitants rather than tourists or temporary sojourners, they are ever ready to call attention to matters better arranged abroad which have been forced upon their notice. We may, moreover, recall as instances of appeal to foreign example the frequent recent references made to it in the discussion of proposed fiscal changes or of the newly instituted old age pensions. In these circumstances we regard as a work of great practical value the report and appendices recently issued by the Unqualified Practice Prevention Committee of the General Medical Council, the latter containing, as they do, a digest of the laws in force in the British Empire and in foreign countries which prevent, or tend to prevent, medical practice by other than legally qualified persons. Through the valued intervention of the Lord President of the Council the coöperation of the Foreign, India, and Colonial Offices was secured by the committee, so that the answers to its questions obtained by the committee are authoritative and cover all foreign countries and British colonies of importance, with the exception of the United States and of Canada. With regard to these Dr. A. G. BATEMAN has drawn up tabular statements based upon the Medical Acts of the various States and upon the Provincial Acts of the Dominion.

To the various foreign countries and colonies two questions have been put by the committee as to the law within their boundaries: (1) "What constitutes a legal qualification for the practice of medicine and surgery?" and (2) "What legal provisions exist for the prevention of the practice of medicine and surgery by persons not legally qualified?" The information given in reply has been digested and tabulated so that a more or less complete account of the law of each country or colony can be studied and a bird's-eye view of the general mass of legislation can be obtained. From a summary prefixed to the tables we learn that the law obtaining in 107 colonies and countries is laid before us, Great Britain being included in the number given, and Germany being reckoned as one country and Austria-Hungary as two. Out of the 107 colonies and countries 75 forbid altogether the practice of medicine by those not legally recognised as qualified persons and provide penalties of fines or imprisonment or both for transgressors. Six others may fairly be added to these as being under laws tending in the same direction, although not so definite in the restrictions imposed. 12 countries and colonies have no law regulating medical practice, but this is not surprising when we consider the nature of their populations. They are India, Wei-Hai-Wei, the British East African Protectorate, St. Helena, the Somaliland Protectorate, Uganda, Zanzibar, the Cayman Islands, China, Persia, Abyssinia, and Morocco. In Peru also unqualified practice does not appear to be penalised, and on the Gold Coast and in Russia the restrictions which exist only prevent the unqualified from procuring potent drugs. This leaves ten to share with ourselves the peculiar position, for it must be observed that it is peculiar, of merely reserving to qualified practitioners official recognition and the privileges which naturally arise from it, including the use of medical titles, and of providing penalties for persons making use of such titles when not possessed of them. The list of those last referred to is an interesting one because it contains important British colonies and one very important European State. It is composed of New South Wales, Queensland, South Australia, Victoria, New Zealand, Sierra Leone, Barbados, St. Vincent, the Falkland Islands, Germany, and the United Kingdom.

From this it will be seen that not only are we members of a small minority in the world but that in Europe we share our position with the German Empire alone and that consequently we have ample opportunities of studying the laws passed by European Governments with a view to safeguard effectually the patient, and especially the ignorant patient. In France we find a good example of carefully framed laws limiting the practice of medicine and surgery to the holders of State diplomas of Doctor of Medicine at one of the seven universities entitled to grant them, with a distinction in the matter of penalties between the illegal practice of medicine by the unqualified and that which is

combined with the assumption of the title of Doctor. For the latter offence, which, naturally, carries the heavier punishment, a fine of from £40 to £80 is provided for a first offence, while a second conviction renders the offender subject to a fine of from £80 to £120 either with or without imprisonment for from six to 12 months, or to imprisonment alone. With us the most ignorant quack can treat disease or injury with impunity and the worst which he can fear if he strengthens his claim to attention by usurping medical titles is a fine of not more than £20, or half the minimum penalty which similar conduct would earn for him across the Channel. Among European countries Spain also treats with increased severity unqualified practice combined with the usurpation of medical titles, as do New Brunswick, Nova Scotia, Costa Rica, Nicaragua, and Cuba. In Austria only such persons as possess Austrian nationality and have obtained the diploma of Doctor of General Medicine at an Austrian university are allowed to practise, and foreign medical men, including Hungarians, must have their foreign diplomas legalised in Austria and must acquire Austrian nationality, penalties being provided by a section of the Criminal Code for any breach of the law. The demand for naturalisation is a stringent one which we may not desire to see here, but we may contrast with it the fact that in our police courts a foreign quack with an absolutely bogus degree only renders himself liable to penalties by the use of titles implying registration or legal recognition, and that even then he usually attempts, and sometimes with success, to mitigate his punishment by vaunting a supposed university diploma obtained without undergoing any medical training whatever. In addition to the law of the countries named already, British legislators may usefully study that of Belgium, Hungary, Greece, Italy, the Netherlands, Portugal, and the greater part of Switzerland, and, outside Europe, that of Japan. In some of our colonies conditions prevail which render their laws less useful for the purpose of comparison than those of European countries, but it is instructive to note that Western Australia does not range itself with the Australian colonies named above in following British precedent but forbids medical practice by the unqualified, and that the various provinces of Canada are unanimous in doing the same, as well as Cape Colony, the Transvaal, and the Orange River Colony. Throughout the United States also a licence is required as a condition of engaging in medical practice, the penalties for the infringement of the law varying considerably in different States. In conclusion, we remind our readers that the committee which compiled the useful work before us recognised that before remedial legislation can be obtained the public must be made fully aware of the dangerous abuses which exist under present conditions, and that accordingly it recommended that a resolution in the following terms should be adopted by the General Medical Council and transmitted to the Lord President of the Privy Council:—

"That the General Medical Council, being of opinion that the present Medical Acts do not sufficiently enable 'persons requiring medical aid to distinguish qualified from unqualified practitioners,' and that it is contrary to the interest of the public that medical and surgical practice should be carried on with impunity by persons holding no recognised qualifications, requests the Government to take steps for the appointment of a Royal Commission to inquire into the evil effects produced by the unrestricted practice of medicine and surgery by unqualified persons."

A motion in these terms, duly moved at the meeting of the General Medical Council on Nov. 28th, 1908, by Dr. H. W. LANGLEY BROWNE and seconded by Dr. H. A. LATIMER, was adopted, and we venture to hope that it may initiate the first step towards the legislative remedy of a great public evil. The medical profession can hardly fail to be unanimous in its desire that such an inquiry should take place, and in its willingness to supply the commission, if held, with ample evidence of the existence of the evil. Of the enormous amount of evidence on the subject that must be in existence even medical men can form but an inadequate estimate.

Capital Punishment in France and Italy.

Is capital punishment justifiable? If so, is it expedient? Such are the questions, long settled in the affirmative by British opinion but now revived with special urgency abroad. Never, as in Italy, has the death penalty been annulled in France, though of late years she has so often commuted it for imprisonment, more or less prolonged, that it was assumed practically to have disappeared from the Statute Book. But a succession of brutal and premeditated murders, accompanied with rapine and even rape, has stirred her society to its depths, insomuch that a full-dress debate on the whole subject of crime and its punishment terminated in her Corps Législatif with an emphatic approval of the death penalty, followed by its speedy infliction on four notorious murderers and malefactors on Jan. 11th at Bethune. True, the execution just referred to was carried out in circumstances so revolting—the crowd cheering the headsman and invoking imprecations on the wretched criminals—that the advocates of abolition of the penalty seized it with alacrity as a confirmation of their thesis, and so the question, supposed to have been settled in Parliament, has again arisen in the press. But the answer to this latest contention of the abolitionists is simply an appeal to British methods, by which, for well-nigh half a century, all such executions are conducted in the privacy of prison, without in the least impairing their deterrent force.

British practice, indeed, and British experience weighed powerfully with the Corps Législatif in its recent decision to retain and to enforce the death penalty, but still more powerfully, in the opposite sense, weighed the experience of Italy, a sister nation, whose record in homicide is veritably a scandal to twentieth century civilisation. All through the debate in the French Chamber the Italian statistics were referred to as proving that a whole generation's experience of the abolition of the death penalty had strengthened the validity of that penalty as a deterrent—Italy's homicidal record amounting to this, that the crime has now acquired such proportions as to make it possible to say with her great criminal statistician Baron GAROFALO, that "an Italian kills an Italian every two hours." Another authority who carried just weight with the French Chamber was Dr. ALEXANDRE LACASSAGNE, professor of juristic medicine in the University of Lyons,

whose classic treatise on "Crime and the Death Penalty" gives independent confirmation to Baron GAROFALO'S findings and establishes the same thesis that "if any doubt exists on the efficacy of the penalty the Italian statistics suffice to set it at rest." Very galling has the decision of the French Republic—"the leader of the Latin Civilisation," in Italian words—proved to the Italian abolitionists, of whom one of the most strenuous is Signor NAPOLEONE COLAJANNI, Member of Parliament, at present occupying the statistical chair in the University of Naples, vacated by Baron GAROFALO, now Procurator-General of the Court of Cassation at Venice. Admitting Italy's sinister priority in lethal crime, Professor COLAJANNI tries to minimise it in every way and produces figures to show that the last statistical year gave not 4000 but 3000 as the number of Italian homicides. But Baron GAROFALO replies that that year witnessed the emigration of nearly a million of Italians, mainly from the southern provinces, from those, that is, of the population in whom "analfabetismo" and ignorance and readiness to take the law into their own hands are most prevalent, and whose settlement in America, North and South, has been coincident with an exacerbation of crimes of blood, whose perpetrators, often punctually lynched, received the punishment withheld from them in their too indulgent motherland. The Venetian procurator's logic, it will be seen, is superior to the Neapolitan professor's—a fact which must again prove particularly galling to the representative of a party which plumes itself on its scientifically logical methods.

These same logicians, as THE LANCET[1] has recently pointed out, have nothing to say against the death-penalty inflicted on the duelling-ground in vindication of "honour" or "amour propre," and, while prompt to deprive the law of a punishment found efficacious in civilised countries, raise not a protest, even a deprecating finger, against the practice of private combat—that is, of killing by sabre or revolver; nay, hold the said practice to be an "honourable institution," the refusal to conform to which carries with it social ostracism or the brand of poltroon. Again, these same logicians, after the appalling cataclysm of Messina and Reggio, looked on approvingly at the summary shooting down of the miscreants who attempted to loot the dismantled tenements and applauded the establishment of martial law around the ruined cities and the short shrift which it carries with it! Once more, if these self-complacent logicians have one idol more revered than another, that idol is MAZZINI, whose vindication, nay, advocacy, as uncompromising as it was eloquent, of the "moral dagger" by which this or that "tyrant" or "despot" was marked out for the death penalty has had an effect on his less cultured compatriots which time has not impaired—an effect, indeed, which explains the fact that out of the nine assassinations of Royal personages or Republican presidents (to say nothing of those which proved abortive) seven within the last decade have been perpetrated by Italians. Society, it seems, is justified in removing by death an unpopular governor, but it is not entitled to mete out the same justice to one of its declared enemies, like that "capobanda" (ringleader) just executed at Bethune, whose career, stained by every crime, was a terror to the Franco-Belgian borderland. "Judex damnatur cum nocens absolvitur," runs the Latin saw, adopted as the rubric of a great organ of British reform in the last century. Let Italy take note of the same and ask herself whether the practice and experience of the British Isles, in accordance with that rubric, have no lesson for her, as they recently have had for France, whose civilisation she claims and quotes with pride as the most advanced exemplar of her own.

[1] THE LANCET, Nov. 7th, 1908, p. 1382.

Kuhn's Peroral Intubation of the Larynx.

A GOOD many years ago TRENDELENBURG endeavoured to prevent the passage of blood into the larynx during extensive operations on the tongue or jaws by performing a preliminary tracheotomy and introducing a tracheotomy tube which was surrounded by a dilatable rubber jacket so as to occlude completely the lumen of the trachea; thus respiration was maintained through the tube and the administration of the anæsthetic was also rendered simple. The method was ingenious and was employed to some extent. O'DWYER'S introduction of intubation for the prevention of occlusion of the larynx, especially in diphtheria, showed how very tolerant the larynx is of the presence of a foreign body provided that a free passage is left for the entrance and egress of air. Dr. FRANZ KUHN of Cassel has, as it were, combined the ideas contained in the instruments of TRENDELENBURG and O'DWYER. He has devised an appliance by which intubation of the larynx is performed through the mouth and all the benefits of TRENDELENBURG'S obturator are obtainable without the additional risk and shock of a tracheotomy. The principle of the instrument is as follows. A tube composed of a metal spiral is introduced into the larynx, so that it passes between the vocal cords and extends below them for a short distance. It is placed in position by a repositor or carrier which is removed as soon as the tube has reached its resting place. It then extends from a short distance outside the lips to a little below the vocal cords. The lower end is fenestrated and ends in a blunt point, and a little above it is an enlargement which rests on the cords. The cases in which Dr. KUHN advocates the use of his apparatus are many. In the first place, it is very convenient for the administration of the anæsthetic during extensive operations on the mouth, the pharynx, or the tongue. The entrance of blood or mucus from the mouth into the air passages is impossible and anæsthesia can continue uninterruptedly; and all the while free entrance of air is allowed. Vomiting is much more readily controllable; the surgeon has an uninterrupted view of the part on which he is operating and sutures can be much more readily applied. The risk of sepsis is also materially diminished. It is worth bearing in mind that the quantity of anæsthetic required to keep the patient thoroughly under is very much less as hardly any is wasted and it can be administered drop by drop so that the danger of an overdose is lessened. The necessity for constant sponging out of the mouth and pharynx is done away with, for the accumulation of blood and mucus there cannot interfere with respiration. Only

that amount of sponging is required which the surgeon needs to see well the site of operation. Secondly, peroral intubation is advised by Dr. KUHN for cases such as laparotomies, where a complete relaxation of all the muscles is required, for this thorough anæsthesia is, he maintains, much more easily produced by his method than by ordinary modes of administration. Thirdly, in all forms of asphyxia it is suggested that peroral intubation is of the greatest use, whether the asphyxial is produced by an anæsthetic, by toxic gases, by foreign bodies in the air passages, or by drowning; also, if the failure of respiration is caused by poisons such as morphine, or by mechanical pressure on the larynx. In all these cases Dr. KUHN considers that peroral intubation should be at once employed with or without artificial respiration or the inhalation of oxygen. He lays great stress on his belief that if the tube be employed to administer chloroform asphyxia is almost impossible, for nothing can interfere with the entrance of air. If the tube has not been used its immediate application affords the best means of insuring a free air passage in chloroform asphyxia and it allows also of the administration of oxygen. Whatever the cause of the asphyxia the tube should be employed, for it assists the use of oxygen and does not interfere in the least with any method of artificial respiration. The fourth indication for peroral intubation is to be found in operations on the thorax; for these cases MIKULICZ, SAUERBRUCH, BRAUER, and others have devised various methods by which reduced pressures outside the lungs or increased pressures within the lungs have been employed to allow respiratory movements even after the pleuræ have been opened. Dr. KUHN'S method is applicable here also, for he is able to make the mouth air-tight by the application of a rubber bandage over the mouth.

As to the tube best suited for any individual case, it may be laid down that the largest tube possible should be employed and that the size of the glottis determines this point. A table is supplied giving the sizes most commonly suitable for various ages but the general development must be considered. For adults the most usual sizes are from 9 to 10 millimetres in width and from 11½ to 13 centimetres in length. The mode of application is simple but care must be taken to see beforehand that the carrier slides easily into and out of the tube, for if it should stick when the attempt is made to withdraw it harm might result. Cleanliness and thorough lubrication are essential. The tube may be bare or the lower part may be covered by a thin rubber sheath, except at the perforated extremity; this covering makes it smoother and facilitates its introduction. The attainment of skill in the introduction of the tube can be obtained by the use of models or by practice on the dead body, but though these are useful, and especially the latter, they cannot replace practice on the living. Dr. KUHN says that the introduction is harmless and he suggests that patients with carcinoma of the œsophagus are suitable cases for the employment of the method. These patients have become quite accustomed to having bougies passed down the œsophagus and they are as a rule very tolerant of intubation. The procedure, he tells us, is justified from a clinical standpoint, for it may be looked upon as a preparation for a possible operation on the œsophagus. The question arises as to whether a general anæsthetic is necessary for the introduction of the instrument. It is quite possible to introduce the tube when only cocaine locally is employed; in fact it is more easy than when the patient is under a general anæsthetic, for the upper opening of the larynx appears to be higher up. Even if no cocaine be applied there are only coughing and a sense of suffocation until the carrier is removed, but as soon as the airway is clear the cough ceases. If the upper opening of the larynx and especially the under surface of the epiglottis are cocainised the tube is well borne, and Dr. KUHN has had cases in which the patient has climbed on to the operating table with the tube already in position. The reason of the tube being borne so well is the fact that it in no way interferes with respiration, for the mere irritation of the mucous membrane is of minor importance and there is no possibility of a spasm of the glottis. Even when general anæsthesia is to be employed Dr. KUHN thinks that a previous application of cocaine is beneficial and he approves of the administration of small doses of morphine also. The cocaine can be used in a solution of from 5 to 20 per cent. and it may be combined with a little adrenalin; the cocaine must be applied to the base of the tongue, the hard and soft palate, and the posterior wall of the pharynx, and also to the laryngeal aspect of the epiglottis and the opening of the larynx.

For the intubation the patient may be sitting or lying down; the latter position is, of course, necessary if a general anæsthetic is used. The mouth is kept open by an O'Dwyer's gag and the surgeon introduces his left forefinger and feels the epiglottis, and then the arytenoid cartilages are made out and the tube is slipped in by the side of the finger. No force must be used and if a momentary spasm of the glottis occur the surgeon must wait till it passes. The carrier is then withdrawn and the tube is fixed in position by rubber bands. The gag is left in for operations on the mouth and if necessary the pharynx may be plugged with strips of gauze. Anæsthesia is carried on by means of a funnel and tube attached to the end of the instrument. The funnel is filled with cotton-wool on to which the chloroform is dropped. A small tube leads from the anæsthetic funnel to the anæsthetist's ear and by it he can hear every respiration of the patient. The most common mistake in introducing the instrument is to pass it into the pharynx or to let it deviate to one side of the middle line. Dr. KUHN claims that an aspiration pneumonia never follows operations on the mouth, if his tube be employed, for the simple reason that as air enters freely by the tube there is no aspirating effect on the contents of the mouth. In no case has any harm happened to the larynx beyond slight lesions of the mucous membrane. A little tenderness and hoarseness may be present for a few days. Dr. KUHN has written a large number of articles on his method during the last eight years and he has demonstrated its mode of employment at several congresses, but it is very little known in this country. Even if we discount to some extent the enthusiasm of the inventor we may still acknowledge that the method of peroral intubation is applicable in certain cases of operation on the mouth and pharynx, that it facilitates anæsthesia in

such cases, and that it offers a possible solution of the difficult problem of the maintenance of respiration in operations on the thorax which interfere with respiration.

Annotations.

"Ne quid nimis."

MEDICAL RESEARCH.

THE anonymous donor, according to the best authorities, is always to be commended, and the most recent example of him is particularly brilliant. The Medical School of the London Hospital has just received a sum of £20,000 which has been placed in the hands of the trustees of the school by an anonymous donor. The trustees are to invest the money to the best advantage and to pay the income yearly into the hands of three administrators selected by the donor, these administrators to spend the money in the advancement of medical research and the promotion of higher education in medicine. The administrators are the able and energetic chairman of the hospital, the Honourable Sydney Holland, and two members of the acting staff of the hospital. The money is definitely to be allocated for the purposes of research and not for teaching candidates for examination. We have pleaded many times in our columns that those who are blessed with this world's goods should devote some of their superfluous income for the furtherance of scientific research. Research of any kind nowadays costs money, for those engaged in the research must, at all events, have a living wage, and owing to the refinement of methods of inquiry the apparatus necessary for modern research is expensive. It is outside the mark to say that Faraday, Scheele, Priestley, Dalton, and Pasteur arrived at their results with simple apparatus. It is perfectly true that they did but medical research nowadays touches nearly every country in the world and it may even be necessary for the researchers to travel in foreign parts, though we imagine that the final work will have to be done within the walls of the London Hospital. It is for this reason that we welcome the establishment of an income for men who are both able and willing to devote their time and their talents to original work. The choice, we learn, is wisely not confined to men who have been educated at the London Hospital but the administrators may select qualified medical men from any part of the Empire. We are sure that we are but voicing the thanks of the whole of the medical profession when we pay our tribute to the anonymous donor of the fund in question. All research adds to the sum of human knowledge, although the results may be of no direct value. But the men so engaged should receive as rich a reward as he who attains some obvious success. The work entailed is the same in either case.

INSURANCE OF INFANTS BY FRIENDLY SOCIETIES.

UNDER the provisions of Section 2 of the Friendly Societies Act, 1908, which came into operation on Jan. 1st, it is enacted that "a person of or under one year of age may be admitted as a member of a registered society or branch." Friendly societies are thus authorised by this section to insure the lives of infants under one year of age, whereas under the provisions of the Friendly Societies Act, 1896, no child could be admitted as a member, or insured, under the age of one year. Under the provisions of the Act of 1896 no insurance money exceeding £6 can be paid on the death of a child under five years of age, or exceeding £10 on the death of a child aged five and under ten years. As these provisions have not been altered by the Act of last year, it is improbable that the effect of the above-mentioned section of the new Act will seriously affect the amount of insurance of infants, although it may lead to keen competition between industrial insurance companies and friendly societies for this kind of insurance business. It is not easy to recognise an insurable interest in the life of an infant aged under one year and we can but regret that no attempt was made in the Children Act of last year to regulate and to control this form of insurance which is hardly calculated to promote the care of infants suffering from ignorant or neglectful treatment.

THE TEETH OF THE IGOROTS.

IN a paper on the Teeth of the Igorots (published in *Dental Cosmos*, vol. i., No. 7) Mr. Louis Ottofy gives particulars of a careful and detailed examination made of 113 children of this people. The Igorots are inhabitants of the Philippine Islands and must be classed as barbarians rather than savages, and of these the Bentoc Igorots, the ones investigated by Mr. Ottofy, are the most conservative. The following are the results of his investigations :—

Teeth Examined.

Sound—Permanent	2247
,, Deciduous	447
	2694
Carious—Permanent	47
,, Deciduous	140
	187

The total teeth examined were therefore 2881 and of these 187 were carious. On examining these figures it will be noted that the percentage of carious to sound teeth is much greater in the deciduous than in the permanent teeth, but this is perhaps to be accounted for by the fact that the children were advanced in years, the average number of deciduous teeth being only slightly over three per child. The number of carious permanent teeth is, however, very small—namely, a little over 2 per cent., a detailed examination of these showing that 77 children had perfectly sound sets of teeth, 29 had one tooth carious, 4 had two, 2 had three, and 1 only had four. In some examples only small fissure cavities were present, and in no single case was the pulp involved. In all the children the arches were perfectly formed, and there was no prognathism and no other abnormality except in the case of two boys, each of whom had one supernumerary tooth (cone shaped) directly posterior to the maxillary central incisors. If we compare these figures with those obtained by Mr. Ottofy from the examination of other inhabitants of the islands—namely, 500 Filipinos, some very interesting facts are obtained. In the Filipinos only 24 perfect sets were noticed, and there were 279 carious teeth in every 1000, the percentage of sound and carious permanent teeth in the two groups being as follows :—

	Sound.	Carious.
Filipinos	79·10	20·90
Igorots	97·95	2·05

The difference in the incidence of disease between the Filipinos and the Igorots would seem to lie in the character of their food-stuffs. In the Igorots the children eat about 30 per cent. of camotes, a sweet potato, 30 per cent. of rice, 30 per cent. of other vegetable food-stuffs, such as corn, beans, maize, and so on, and 10 per cent. of fish, snails, beef, chicken, dog, and eggs. Bread is unknown. The rice and camotes are not cooked as soft as is the custom with us and the Igorot masticates his food thoroughly. Sugar is almost unknown and is distasteful to the children. Mr. Ottofy tells us that the wife of the

principal of the school in Bentoc made some fancy candy for the children at Christmas time but on tasting it they made wry faces and spat it out. If we turn to the Filipinos we find that they have a common practice of chewing sugar which is sold in small pieces in the markets of Manila and in fact all over the islands; indeed, sugar is eaten in large quantities and to this Mr. Ottofy ascribes the extensive amount of caries seen in their teeth. These facts and figures would seem to give additional support to those who believe that the prevalence of caries seen amongst civilised people of the world is in a large measure due to sugar.

WEATHER TELEGRAMS FROM THE ATLANTIC.

THE recent announcement that the Meteorological Department of this country, in conjunction with the important German Department of Hamburg, has come to an arrangement with the Marconi Wireless Telegraph Company and the owners of nearly all the big liners which steam between Europe and America for the inauguration of a system of wireless weather telegrams from the Atlantic marks the commencement of what should lead to a most important step in advance in the difficult task of forecasting the weather in this country and the other western countries of Europe. As these islands are situated the nearest to the Atlantic, however, the greatest benefit accruing from a knowledge of what the elements are doing on that ocean—that vast home or breeding-place of cyclones—should naturally fall to the lot of this country. It is a fact beyond dispute that most of the cyclonic systems, as well as many of the anticyclones, which determine the weather in these islands reach us by way of the Atlantic, and the chief difficulty of the Meteorological Office so far has been its inability to obtain information of the changes continually in progress on that ocean to the westward of Ireland. The observing stations that are scattered plentifully along the most western seaboard have frequently been useless to give adequate warning of the advance of a dangerous storm system in consequence of its quick rate of travel, and there are many instances on record of a cyclone, the existence of which was entirely ignored at the time of taking the evening observation, moving so rapidly as to be centred over the Irish Sea or the English Channel before daylight next morning, and to be causing a seriously destructive gale on nearly all the coasts of the country. It is well known to the fishermen and other dwellers on the western coasts that the storm warnings sent by the Meteorological Department have had little practical value owing to their late arrival. They have, in fact, generally arrived on the coast of Ireland and the most western coasts of Great Britain either immediately before the setting in of the gale or after its commencement, while even the east and south coasts have often received warning too late to prevent serious loss. Such unfortunate occurrences may happen in spite of wireless telegraphy. But they would be due to the sudden development of dangerous energy by an apparently harmless and feeble cyclone or to one approaching from the north-west or north. Such cases are relatively rare, and providing the department is furnished with a daily supply of accurate observations of the barometer and wind from the ocean it should be very seldom that a wind storm of much importance fails to give notice of its proximity to these islands. Although the western parts of the country are likely to receive the greatest benefit from the innovation its effects on the daily forecasts for the rest of the country will probably be little less striking, and it will be a disappointment, which it may be assumed the Meteorological Department will be the first to feel, if a greater degree of accuracy is not obtained. Under ordinary weather conditions, with the main wind current between south and west, there can be no doubt that the new service will be of great value, while on the comparatively rare occasions when the positions of the high and low pressure systems determine that our weather comes from the east or north a knowledge of the conditions obtaining on the Atlantic should often enable it to be foreseen how long such a state of things is likely to continue. It is probable that it will be found that the most important result of the Atlantic telegrams on the weather forecasts will be that it will be possible to predict the duration of a particular type of weather. Hitherto the forecasts, even when quite correct, have been of comparatively limited utility. They have appeared in the morning papers, giving the probable weather conditions for the 24 hours only, but in the future it is to be hoped that it will often be possible to predict the general character for two days in advance and also to give a very good idea of the duration of a hot and dry or dull and wet spell in summer, and of a spell of mild, open weather or of hard frost in winter. If, for instance, the barometer in this country is high and steady and the wind is from east or north-east with severe frost, the knowledge that a large cyclonic system is making its way across the Atlantic to the west or north-west of these islands will mean that the wind will shift towards south or south-west and the weather become milder and probably rainy. And if during the prevalence of a rainy period with a low barometer and south-west winds it is seen that an anticyclone is coming to this country from the westward it will be pretty certain that the rain and south-west winds will soon give place to a north-west or north wind and drier weather. It only needs a sufficient and regular supply of telegrams which will reach London within a few hours after the time of observation from various parts of the Atlantic to enable the meteorological experts to change the possibilities noted above to actual facts, but as the service has only just come into operation and is yet far from complete some weeks must be allowed to elapse before a definite pronouncement can be made.

THE OPERATIVE TREATMENT OF ACUTE GONORRHŒAL EPIDIDYMITIS.

ACUTE gonorrhœal epididymitis is usually treated by rest and other expectant measures. In recent years attention has been directed to the value of operative treatment in the form of drainage—a procedure which was originated by Hagner of Washington. As long ago as 1852 Pirogoff punctured the testicle for "orchitis" and subsequently the late Mr. Henry Smith punctured the acutely inflamed epididymis in several cases with benefit.[1] But these operations differed widely from Hagner's operation and are only of historical importance in this connexion. In the *Boston Medical and Surgical Journal* of Nov. 19th, 1908, Dr. J. H. Cunningham has reported good results from Hagner's operation which is performed as follows. The junction of the epididymis and testicle is defined and the skin is incised for 2 inches in this line. The tunica vaginalis is opened and any fluid present escapes. The swollen epididymis with the testicle is delivered. The epididymis is punctured in many places with a sharp-pointed knife. The infiltrated fibrous covering must be penetrated and the body of the organ entered. If pus escapes the opening must be enlarged with the knife and a probe inserted to enlarge the canal. The cavity is syringed with a fine-pointed syringe filled with 1 in 1000 solution of corrosive sublimate and then with salt solution. The epididymis is gently squeezed to force out as much infectious material as possible, which is removed with a sponge wet with the corrosive sublimate solution. The tunica vaginalis is also washed out with both solutions. A gauze drain is placed over the

[1] THE LANCET, August 6th, 1864, p. 149.

punctured epididymis and brought out at the lowest part of the wound. The tunica vaginalis is closed by a continuous catgut suture and the skin with horse-hair sutures. A moist corrosive sublimate dressing is applied and the testicle is kept elevated. On the following day the wound is dressed. Except when suppuration is considerable irrigation is rarely necessary. Usually the drain may be removed in a few days and the wound generally heals in ten days. A support should be worn for several months. Baerman has performed the operation in 28 cases with uniformly good results. He finds that an abscess forms in a large proportion of cases of epididymitis and believes that early puncture saves the canal from occlusion. Immediately after the puncture the excruciating pain is relieved, the general symptoms diminish, and the leucocyte count falls. In Hagner's cases the patients remained in bed on an average for five days after the operation, when they were allowed to get up wearing a suspensory bandage. In three out of 25 cases the discharge did not return and in the others it did not last so long as in patients treated symptomatically. Dr. Cunningham has performed the operation in seven cases. The patients were greatly relieved and the wounds healed in from 8 to 15 days. The urethral discharge returned in five cases but in none was it so active as it generally is in subsiding epididymitis. The following is an example. A man suffering from gonorrhœal epididymitis was not relieved by the usual treatment. The pain was so intense that a quarter of a grain of morphine was injected thrice at intervals of an hour before it was controlled. The temperature was 102·5° F. and the leucocytes numbered 21,000. The operation entirely relieved the pain and after 24 hours the temperature was normal and the leucocytes numbered 6500. Whether the function of the testicle is better preserved after the operation or not cannot yet be said.

THE WORRYING SIDE OF GOLF.

THE question whether golf is a healthy exercise for both mind and body in the case of every individual who tries to master the game is debateable. The advantages of an outdoor sport because it is outdoor are obvious, and one fact indisputably in favour of golf is that it entails exercise in the fresh air. The physical needs of the body may receive, therefore, a healthy stimulus, but it avails little if also the mind is not simultaneously attuned to a like condition of well-being. There are not a few individuals who worry needlessly over trifling matters, who would be glad enough to put a good complexion on things, but their disposition seems to render it difficult. Others are of an exceedingly irritable turn of mind and if all does not go well they are made miserable. It is doubtful whether such people derive any good from golf when the game does not go smoothly with them, and golf is *par excellence* a game which presents oftentimes enough a number of irritating disappointments. The man who has had a worrying week in the ordinary pursuit of his business or profession will be found trying to seek relief in a round of golf at the week-end, only to discover that he is "off his game." If he takes his failure to play a good game to heart it is doubtful whether his health gains very much. He has had, it is true, the advantage of a change of scene and occupation and has lived for a while in a healthier atmosphere, and if he had only been satisfied with his game all these things would have conspired to send him back to his work cheered and braced up. But he may play very badly and become unduly worried thereat. A game that is calculated to increase an irritability which has arisen out of a trying week's work can hardly be said to be recreative, at all events to the mind. The disadvantage, therefore, of golf as a mental relief as well as a physical recreation is that it may ruffle rather than soothe the feelings. The fact is, golf is a game of skill and precision and bristles with so many niceties that it requires considerable mental attention, and unless success attends a good many strokes the feeling of irritation becomes very real, and after a round freely interspersed with foozled tee shots and taking the grass badly the conclusion is reached that golf is a disappointing game. Such a performance may have some disciplinary result but it does not make for even temper or for peace of mind, and an exercise involving no particular skill, such as walking or cycling, would in such cases be far better. The game of golf, if it does not go smoothly, presents so many points of analogy with the tiresome eventualities of life that there can be little doubt that persons of an irritable, gloomy, and worrying disposition would be better if they did not seek their recreation on the links.

APLASTIC ANÆMIA.

CERTAIN cases of severe anæmia characterised by an absence of regenerative reaction on the part of the blood-forming organs have been separated from simple anæmia on the one hand and ordinary pernicious anæmia on the other. An interesting study of this form, to which the name of aplastic anæmia has been applied by Ehrlich, is given in a paper published in the *Centralblatt für Allgemeine Pathologie und Pathologische Anatomie* of Dec. 15th, 1908, by Dr. J. Steinhaus and Dr. L. Stordeur, based on a review of the recorded cases in German literature and on an examination of two cases observed by themselves. The first case to be carefully worked out was that of Ehrlich in 1888. The patient was a woman, aged 21 years, who developed a condition of profound anæmia after severe metrorrhagia and died in a few weeks. The number of erythrocytes sank to 213,360 per cubic millimetre; both poikilocytosis and polychromatophilia were present but there were no nucleated red blood corpuscles. The leucocyte count was normal but the differential count showed 14 per cent. of polymorphonuclear neutrophiles and 80 per cent. of lymphocytes. At the necropsy the bone marrow in the femur was found to be yellow and Ehrlich regarded the condition as due to aplasia of the bone marrow. In 1900 Schaumann published a case in a man 22 years of age. The number of erythrocytes shortly before death was found to be 603,000 per cubic millimetre, whereas when first examined it was 1,828,000. The leucocyte count was normal. Post mortem the marrow of the humerus was yellow, that of the sternum very pale, almost colourless. Engel published a similar case in 1901 and found a clear fluid almost free from cells in the place of the bone marrow of the ribs. In the last few years other cases with similar characters have been observed and recorded by Bloch, Vaquez and Aubertin, Chauffard, Acuna, Kurpjuweit, Hirschfeld, and Blumenthal. Similar cases have been recorded in this country by Dr. W. Pasteur and Dr. N. Dalton. The first of the two patients observed by Dr. Steinhaus and Dr. Stordeur was a woman, aged 43 years, with a few months' history of anæmia, weakness, and headache. There were 2,000,000 normal red blood corpuscles and 5000 white cells per cubic millimetre. The differential count showed 70 per cent. of small lymphocytes, 5 per cent. of large, and 25 per cent. of neutrophiles. There were no eosinophiles and no nucleated red corpuscles. At the necropsy there were found the ordinary appearances of a severe anæmia. The bone marrow in the femur was pale yellow and fatty; in the sternum, ribs, and the bodies of the vertebræ a yellowish red fluid was found instead of marrow. The second case was that of a man, 27 years of age, with similar clinical manifestations; the blood examination showed 1,960,000 red corpuscles per cubic millimetre, with 40 per cent. of hæmoglobin; white corpuscles, 2700 per

cubic millimetre, of which 31 per cent. were polynuclear neutrophiles, 9 per cent. large and 57 per cent. small lymphocytes, and 3 per cent. transitional forms. There were no eosinophiles and no abnormal forms of erythrocytes until a few weeks before death, when it was found that the corpuscles showed less tendency to form rouleaux and that there were a few microcytes and poikilocytes. The marrow in the femur was yellow, fatty, and small in quantity. In the sternum and in the ribs there was an almost colourless fluid instead of bone marrow. The various organs were submitted to microscopical examination in both cases. It was found that in all the organs, especially the lymphatic glands and the bone marrow, mast cells were very abundantly present and in some places they were almost innumerable. To demonstrate these cells polychrome methylene blue, or thionin, with decolourisation by alcohol, gave the most satisfactory results. The spleen in both cases was fibrous; the Malpighian bodies were relatively poor in cells; the pulp was likewise deficient in cells but rich in pigment. Polynuclear leucocytes, eosinophiles, and mast cells were only present in moderate numbers, the cells present in the greatest numbers being large lymphocytes. The lymphatic glands were also poor in free cells and were infiltrated with fibrous and fatty tissue. Mast cells were abundantly present. The bone marrow was typically fatty and only rarely were any hæmoblastic elements discoverable. The chief cells recognisable were large lymphocytes and mast cells. In general it may be said that a blood examination revealing anæmia without any evidence of regenerative activity is the distinguishing feature of the aplastic form of anæmia. The red corpuscles may be reduced to one-fourth, one-sixth, or even one-twelfth of the normal, while the white cells may be greatly reduced also, and sometimes the percentage of lymphocytes is increased. In severe forms of secondary anæmia there is usually some evidence of regeneration in the presence in the blood of normoblasts constituting the so-called normoblastic reaction, while in pernicious anæmia the occurrence of megaloblasts serves to indicate the activity of the blood-forming organs. On analysing the histories of the recorded cases Dr. Steinhaus and Dr. Stordeur found that in not a few of them there is a history of severe and repeated metrorrhagia, of epistaxis, or of gastric hæmorrhage, and they suggest that the condition of aplasia of the bone marrow may be brought about by the too severe demands made upon it, and in support of this view they quote some observations of Blumenthal and Morawitz that repeated severe hæmorrhages in animals may produce similar appearances in the bone marrow to those found in aplastic anæmia. After discussing the question as to whether the aplastic form of anæmia is a definite and distinct nosological unit they conclude that it is not, but that aplasia may occur as a last stage in various forms of severe simple anæmia or in pernicious anæmia. The condition certainly is of most grave import, since it appears to be invariably fatal.

THE NOTIFICATION OF BIRTHS ACT.

DURING last year 126 sanitary authorities adopted the provisions of the Notification of Births Act, thus securing within those sanitary districts the prompt notification to such authorities of all births occurring within these districts. The Act was adopted at various times during the year in 18 of the 29 metropolitan boroughs, and we have reason to believe that its adoption is now under consideration in several of the remaining 11 of those boroughs. Of the 75 large English and Welsh towns for which, with the county of London, the Registrar-General publishes monthly returns of vital statistics, 44 have already adopted the Act in addition to Huddersfield, in which county borough notification was previously provided for by a local Act. Among the largest of the towns dealt with in the Registrar-General's returns which do not at present appear to have adopted this Act may be mentioned Leeds, Bristol, Manchester, Salford, Leicester, and Portsmouth. The Act has, moreover, been adopted in 63 municipal boroughs or urban districts not included in the Registrar-General's list of the 76 largest towns. As the Act was not adopted in many of these sanitary districts until the latter half of last year statistics are not at present available for estimating the effect of this notification on the rate of infantile mortality.

THE TREATMENT OF TETANUS BY SUB-ARACHNOID INJECTION OF MAGNESIUM SULPHATE.

IN 1905 Meltzer, an American writer, showed that magnesium salts paralyse nervous tissue. A 25 per cent. solution of magnesium sulphate applied to a nerve abolishes its conductivity; injected into the spinal canal in monkeys it produces in some minutes paralysis and anæsthesia of the lower limbs and in an hour paralysis of the whole body. These results led Meltzer to suggest the use of such injections to relieve the spasms of tetanus—a suggestion soon adopted by American surgeons. The *American Journal of the Medical Sciences* for December, 1908, contains an important article on the subject by Dr. R. T. Miller of the Johns Hopkins Hospital. He finds that 11 cases have been reported; in eight subarachnoid injections were used with three recoveries; in three subcutaneous injections were given and recovery took place in all. He adds the following case. A boy, aged seven years, was admitted into the Johns Hopkins Hospital on August 16th, 1908. Ten days before he was knocked down by a wagon and sustained a lacerated wound of the hand. Symptoms of tetanus began on the eighth day. On admission there was a granulating wound with a greenish necrotic base on the dorsum of the left hand. At irregular intervals tonic contractions of all the muscles of the body occurred and the risus sardonicus appeared. In 20 minutes 12 convulsions occurred. The temperature was 100° F. Acute tetanus of a severe type was diagnosed. Under light ether anæsthesia lumbar puncture was performed at 7.30 P.M. A few cubic centimetres of clear fluid were withdrawn and two and a half cubic centimetres of a 25 per cent. solution of magnesium sulphate were injected. The infected area on the hand was excised, the wound was carbolised, and a dry dressing was applied. 1500 units of antitetanic serum were injected into the left thigh. Within from 30 to 45 minutes all the reflexes in the legs were abolished. However, after two and a half hours a convulsion occurred marked by trismus and retraction of the head. This type of convulsion occurred every 15 to 20 minutes. The legs were paralysed but in some of the convulsions the arms moved. The convulsions continued in decreasing rate and severity and by 4 A.M. on the 17th there were no movements below the arms and the patient began to take liquids. At 10 A.M. movements were returning in the legs and at 2 P.M. his condition was similar to that on admission. At 4.30 P.M. lumbar puncture was performed under chloroform and 25 cubic centimetres of cloudy fluid were withdrawn and the same dose of magnesium sulphate was injected. A profound reaction followed. The legs and abdominal muscles were paralysed and the respirations in three and a half hours fell to eight per minute and in four and a half hours to six, becoming shallow, gasping, and unequal in amplitude. The pulse remained full and regular and there was no cyanosis. The patient was comatose and not until 11.30 P.M. did any spasm appear. Then the facial muscles began to twitch and there was slight trismus. Another 1500 units of antitoxin were injected into the thigh. At 1.15 A.M. on the 18th the respirations were six to the minute and each ended in

THE LANCET RELIEF FUND.

For Members of the Medical Profession and their Widows and Orphans when in Distress.

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ALMONERS.

THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.
THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.
THE PRESIDENT OF THE GENERAL MEDICAL COUNCIL.
THOMAS WAKLEY, L.R.C.P. Lond.

HON. AUDITOR.

SIR THOMAS SMITH, Bart., K.C.V.O., F.R.C.S. Eng.

——:o:——

THIS FUND will be provided year by year in the month of January to the amount of at least £300 solely by the Proprietors of THE LANCET, and administered free of cost, for the purpose of affording immediate pecuniary assistance to Medical Men, or their Widows and Orphans, *in cases of Acute Distress and Emergency*, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

Applicants must satisfy the Almoners of the Fund that they are qualified under the following regulation:—

*"The recipients shall be such persons as satisfy the Almoners that they possess one or other of the following qualifications—that is to say: (*a*) That the applicant holds a registered medical qualification, and that he has fallen into pressing need of immediate pecuniary relief; or (*b*) That they are persons who have been, previously to the date of application, legitimately dependent upon some person holding a registered medical qualification, and that they have pressing need of immediate pecuniary relief."

(*In the case of Widows and Orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.*)

To ensure the utmost despatch, the "Application Form" upon the other side should be filled up and forwarded (in an envelope superscribed "THE LANCET Relief Fund") to the Secretary, Mr. CHARLES GOOD, THE LANCET Offices, Strand, London, W.C.

The application *must* be accompanied by two separate Testimonials (originals, not copies)—one from the Clergyman of the Parish or other resident Minister of religion, and one from a registered Medical Practitioner. Each Testimonial *must* state—(1) that the application addressed to the Almoners has been read; (2) how long the writer has known the applicant; (3) that the writer believes the statements made by the applicant to be perfectly truthful, and such as may be acted upon without further inquiry; and (4) *may* state any other particulars that the writer desires to place before the Almoners.

Testimonials written for the Almoners of the Fund will in no case be returned.

Private and Confidential.

APPLICATION FORM.

To the Almoners of The Lancet Relief Fund.

The applicant should here state shortly:—

1. **The nature of the emergency that has arisen.**

   (*In the case of Widows and Orphans the full name and date of death of the Husband or Father must be given.*)

2. **The circumstances out of which it has arisen.**

3. **The amount of the grant desired, and whether by way of loan (free of interest) or of gift.**

4. **If by way of loan, state when the loan will be repaid; and from what source the funds to repay it are expected to be forthcoming.**

5. Whether the applicant is entitled or able in the circumstances which have arisen to look to any other source of assistance; and if so, what is the expected nature and extent of such assistance.

6. Whether the applicant is receiving, or has received during the past six months, pecuniary aid from any Medical Charity.

7. State how the applicant is qualified to receive assistance; vide regulation * on first page.

8. Particulars of:

Applicant's age

Number in family

How many are self-supporting

How many are partially dependent

How many wholly dependent

Applicant's Signature

Address

Date

No.

THE LANCET RELIEF FUND.

Name

Address

Received

Considered

Result

Date

trismus which was becoming severe. This condition persisted until 5 A.M. when the respirations began to increase and by 6.30 A.M. they were practically normal. At 9 A.M. fluids could be freely taken, though facial spasm and trismus were produced. 3000 more units of antitoxin were administered. At 5 P.M. there was no opisthotonos but it appeared 12 times within the next 16 hours. On the 19th the effects of the second injection had been so alarming that hesitation was felt in proceeding. The boy had been comatose for 12 hours. The result of the hesitancy was that from midnight until 9.30 A.M. there was continuous opisthotonos and convulsions occurred every two or three minutes. Two cubic centimetres of a 16 per cent. solution of magnesium sulphate were then injected and the head was elevated to prevent the fluid reaching the respiratory centres. Improvement again followed but injection again became necessary. In all, 11 injections were given and were followed several times by respiratory collapse lasting from 11 to 14 hours. The last injection was given on August 29th. Recovery ensued. Of the value of the magnesium sulphate in relieving the spasms there could be no doubt. In THE LANCET of August 15th, 1908, p. 504, our Paris correspondent has also reported a successful case of this treatment.

MUSSELS AND ENTERIC FEVER.

WITH regard to recent remarks on the polluted condition of the shores of Lancashire and North Wales, the report of Dr. J. Marsh, medical officer of health of Atherton, near Manchester, is timely. He states that in a somewhat serious outbreak of enteric fever that recently occurred there it was found in 13 cases "that the sufferer had partaken of mussels." Dr. Marsh thinks that "greater powers should be given to the county and local authorities to deal with any such food that is found to carry any disease or is likely to cause disease." He very justly thinks it hard that persons should contract enteric fever from eating shell-fish which come from a river contaminated with sewage, "and yet even the county authorities have not control over that river should it happen to be tidal." The patients who had eaten mussels had the disease very severely and there were four deaths, or rather more than 25 per cent. of the cases attacked.

A COMPARISON OF THE IRRITATING PROPERTIES OF SOME MERCURIAL COMBINATIONS USED AS ANTISEPTICS.

IN *Surgery, Gynecology, and Obstetrics* for December Dr. George B. Lawson records the results of a series of tests which he has carried out with the object of ascertaining in what form combinations of mercury should be used in order to produce the least possible amount of irritation. Very little work has been done to ascertain the tolerance of the surface of the body for the various preparations of mercury of different strengths. Dr. Lawson investigated the subject by dressing similar parts of the body, in most cases the ankles, with various combinations of the salts of mercury after having prepared the surfaces as for a surgical operation. In each experiment one ankle was dressed with a cotton-wool compress of a certain size soaked with a known quantity of a definite solution of mercuric chloride in distilled water. The other ankle was dressed in the same way except that the solution of mercuric chloride was replaced by an equal quantity of a solution of various mercurial combinations the action of which it was desired to study. Over the compresses were put rubber protective, cotton-wool and bandages, and the dressings were replaced at intervals so as to keep the skin moist. The condition of the skin was observed at intervals and the time taken to produce a noticeable inflammation was recorded. From observations made on 18 subjects of both sexes and various ages Dr. Lawson concludes that combinations of mercuric chloride with citric or tartaric acid are more irritant to the skin than is the case with mercuric chloride alone; that mercuric bromide and mercuric iodide are also more irritant than mercuric chloride; and that the least amount of irritation is produced by a 1 in 1000 solution of mercuric chloride in normal salt solution. In carrying out these experiments the following strengths were employed:—mercuric chloride, 1 in 500 and 1 in 1000; tartaric acid, 1 in 500 and 1 in 1000; citric acid, 1 in 1000; mercuric iodide, 1 in 1000, with potassium iodide 1 in 1000; mercuric bromide, 1 in 1000 and 1 in 2000, with potassium bromide 1 in 1000 and 1 in 2000 respectively. Dr. Lawson draws attention to the fact that in applying antiseptic dressings the water tends to evaporate at the edges, with the result that the solution at these points is more concentrated and tends to produce a local inflammation. A similar result follows when a dressing is repeatedly moistened with an antiseptic solution.

BISMUTH SUBNITRATE POISONING.

UNTIL recently bismuth has been regarded as non-toxic and the few recorded cases of poisoning after its use have been ascribed to the presence of arsenic or other impurity. But it has now been shown that pure bismuth has toxic properties and its recent administration for purposes of radiography has brought this fact more into evidence. In the *New York Medical Journal* of Jan. 2nd Dr. Emil G. Beck has published an exhaustive paper on the subject. As long ago as 1793 cases of poisoning by bismuth subnitrate were recorded but were thought to be due to impurities. The first authentic report of bismuth poisoning was published by Theodor Kocher in 1882. He observed that insoluble preparations of bismuth when applied to large wound surfaces may be absorbed to such an extent as to produce characteristic symptoms—acute stomatitis and black discolouration usually beginning on the gums at the border of the teeth and spreading over the whole mouth, which are followed by intestinal catarrh, pain, and diarrhœa, and in severe cases by desquamative nephritis.[1] Similar cases were reported by Professor Petersen.[2] Then literature was silent on the subject until 1901, when Professor Muhlig reported two cases of poisoning after the dressing of burns with bismuth subnitrate. Later two cases of poisoning were reported in America after administration of 60 and 120 grammes respectively of the subnitrate in one dose. The first fatal case was reported by Bennecke and Hoffman.[3] An emaciated child, aged three weeks, suffered from enteritis. A mixture of three grammes of bismuth subnitrate in 100 cubic centimetres of buttermilk was given in order to diagnose pyloric stenosis by radiography. Twelve hours later cyanosis developed and was followed by collapse and death. After death methæmoglobinæmia and small quantities of bismuth were found in the liver and blood. In the same clinic another fatal case with similar symptoms occurred in a child. Professor Hefter suggested that the symptoms might be due to nitrite poisoning. The blood and pericardial fluid were tested for nitrites which were detected in both. Then Böhme proved by experiments that the fæces of children in contact with bismuth subnitrate liberate nitrites. He injected this mixture into a ligated loop of a rabbit's intestine and found nitrates and nitrites in the urine but not in the blood. Routenberg has reported a case in which methæmoglobinæmia and the other symptoms of nitrite

[1] Volkmann's Klinische Vorträge, 1882, p. 224.
[2] Deutsche Medizinische Wochenschrift, June 20th, 1883.
[3] Münchener Medizinische Wochenschrift, 1906, No. 19.

poisoning followed the rectal injection of 50 grammes of bismuth subnitrate in 400 cubic centimetres of oil of sesame.[4] These and other cases show that toxic effects from bismuth subnitrate may be due to absorption not of bismuth but of nitrites. The liberation of nitrites appears to be due to the action of bacteria in the alimentary canal, especially in the sigmoid flexure and rectum. During the past two years Dr. Beck has treated sinuses extensively by injection of a paste containing 33 per cent. of bismuth subnitrate incorporated in petrolatum.[5] If the bismuth was not discharged soon after injection he proved by a series of radiograms that it underwent absorption. In no case did he observe symptoms of nitrite poisoning but in many cases he noticed slight lividity of the skin, of the mucous membranes, and a bluish border on the gums. In one case he observed ulceration of the mouth, which has been described by Kocher as characteristic of bismuth poisoning. In another case he injected 720 grammes of the paste into a pleural cavity from which an empyema had been evacuated. The paste was retained for six weeks and then desquamative nephritis and a blue border around the teeth developed. The bismuth paste was withdrawn by injecting olive oil and applying a specially devised suction pump and all the symptoms disappeared. Recently Dr. H. Eggenbergel has reported a fatal case of bismuth intoxication following injection of the sinus of a psoas abscess in a child, aged seven years,[6] from the clinic of Professor Wilms of Basle. 30 grammes of the paste were injected and retained for six weeks. Stomatitis resembling that due to mercury developed, the pulse rose to 130, and cerebral symptoms like those of uræmia followed. The abscess cavity was evacuated but death occurred a few days later. It thus appears that two forms of poisoning may be produced by bismuth subnitrate—an acute form due to nitrite poisoning and a more chronic form due to bismuth poisoning.

THE ORIGIN OF SYPHILIS AND THE INVENTION OF ITS NAME.

WE have received a reprint of a paper bearing the above title written by Dr. John Knott, which originally appeared in the *New York Medical Journal* of Oct. 31st, 1908. Dr. Knott is well known as a medical antiquarian, and although he advances no new views in the paper before us, yet, as he says in his opening lines, the subject of syphilis is always interesting. In our issue of June 15th, 1907, p. 1666, we commented upon a paper on the Probable Origin of Syphilis in Europe by Dr. L. Bousfield, and as regards Dr. Knott's paper we must say much the same thing as we did concerning Dr. Bousfield's—namely, that the problem of the origin of syphilis is unsolved though not insoluble. Whenever the disease appeared in Europe it does not appear to have been recognised as venereal till 1494; the name syphilis was unborn until 1530, when it appeared as the title of a poem by Frascatorius who was at once poet, philosopher, physician, and mathematician. The close of his poem is an episode modelled on that commencing "Pastor Aristæus," in the fourth Georgic, and relates how Syphilus, a shepherd, was stricken with the disease by the Sun god as a punishment for blasphemy. Dr. Knott concludes his paper by quoting, with approval, some remarks by Mr. Samuel Lane which appeared in our columns some 67 years ago—namely, Nov. 27th, 1841. (Dr. Knott by a slip says that the statement appeared 57 years ago.) Mr. Lane was of opinion, as most observers are nowadays, "that the venereal disease had existed for centuries prior to the siege of Naples not only in South America but in all parts of the world ....." and "that the discovery made at this period consisted simply in the recognition of a peculiar animal poison as the cause of various symptoms affecting different tissues of the human body, at considerable intervals of time, which symptoms had not been previously known to have any relation to each other." Dr. Knott adds the fact that a more destructive type of venereal virus tends to develop from inoculation with virus from an individual of remoter race. Hence he says we can understand the rejuvenescence of the disease which, after the discovery of the New World, inspired Frascatorius.

[4] Berliner Klinische Wochenschrift, 1906, No. 43, p. 1397.
[5] THE LANCET, May 9th, 1908, p. 1359.
[6] Centralblatt für Chirurgie, Oct. 31st, 1908.

A MEETING of the friends and supporters of the British Medical Benevolent Fund will be held on behalf of the Fund on Tuesday, Feb. 9th, at 5 P.M., in the library of the Royal College of Physicians, Pall Mall East. The chair will be taken by the President, Sir John Tweedy, F.R.C.S. An address will be delivered by the Right Rev. the Lord Bishop of Oxford (son of Sir James Paget, for many years President of the Fund), who will be supported by the Right Hon. the Lord Mayor of London, the President of the Royal College of Physicians of London, and others.

THE Liverpool School of Tropical Medicine informs us that the efforts of the Grecian League against Malaria have had wonderful results in the plain of Marathon which used to be a hotbed of fever. In 1906, 90 per cent. of the cases of sickness were due to malaria. In 1907, after the first efforts of the league, the malaria cases fell to 47 per cent. of all cases of sickness. During last summer, however, usually the most intensely malarious season, the sickness due to malaria fell to only 2 per cent. of the total amount of sickness at Marathon.

A DISCUSSION on Ulcerative Colitis will take place at the next meeting of the Medical Section of the Royal Society of Medicine, to be held on Tuesday, Jan. 26th, at 5.30 P.M. The discussion will be opened by Sir William H. Allchin and statistics of the cases of ulcerative colitis during the past 25 years will be presented from the chief London hospitals.

WE are informed that Dr. Phineas S. Abraham has resigned his appointment of surgeon to the Hospital for Diseases of the Skin, Blackfriars, London.

HOSPITAL WORK IN EGYPT.

BY H. B. DAY, M.D., B.S. LOND.,
MEDICAL REGISTRAR AND TUTOR TO THE EGYPTIAN GOVERNMENT SCHOOL OF MEDICINE.

As a short account of the variety and incidence of disease met with in hospital work in Egypt may be of interest to the practitioner at home and of value to the student of tropical medicine I have obtained permission to publish our experience at Kasr-el-Ainy Hospital, Cairo. This hospital contains over 400 beds and is the seat of the Government School of Medicine. Between 6500 and 7000 patients are annually admitted, the large majority of whom are native Egyptians, fellaheen from the country, together with workmen and artisans from Cairo itself. A number of Soudanese and Berberine residents, with a few Turks, Syrians, and indigent Europeans, also present themselves for treatment. The ratio of male to female patients is three to one, as the women are reluctant to enter hospital and generally refuse to part from their children. Hence the custom is to admit both mother and child in the case of illness of either. Most diseases peculiar to hot climates and all those familiar in England, with the possible exception of scarlet fever, occur among the native population but with different rates of incidence. Three infections—trachoma, ankylostomiasis, and bilharziosis—are so common that few of the fellaheen escape them. The first owes its prevalence to the careless

indifference of the people to the swarms of flies which settle unmolested on the eyelids of children and adults; the warm climate and constant irrigation of the land in Lower Egypt favour the propagation of the two worm infections. Hospital statistics afford no reliable index of the incidence of these diseases, since only the worst cases apply for treatment. Of the total number of patients admitted 1850 cases (25 per cent.) were medical, 2630 (37 per cent.) were surgical, and 1400 (20 per cent.) were ophthalmic; the remainder were distributed among the gynæcological, skin, venereal, and anti-rabic sections.

Medical Section.

In the medical wards diseases peculiar to warm climates account for 31 per cent. of admissions, of which fully half are cases of ankylostoma anæmia. This disease usually attacks the fellah as soon as he begins work in the irrigated fields as a boy, hence the majority of the patients are young adults. The symptoms are those common to all forms of severe anæmia and are often aggravated by the co-existence of pellagra. The position of the various pains in this and other diseases is generally marked by setons or cautery scars, as the native has a firm belief in the virtues of counter-irritation. The routine specific treatment consists in the administration of eucalyptus in doses of 1 to 4 grammes in a chloroform emulsion once or twice a week until all the worms are expelled. Among 660 ankylostoma patients treated here in the last two years the mortality has been 5 per cent.

As might be expected in a land of parasites the ordinary varieties of intestinal worm are of common occurrence with the exception of those derived from the pig, as the flesh of this animal is not eaten by Moslems.

Dysentery is the most common acute infection and last year 100 cases were admitted, of whom 21 died. It appears to be mainly, if not entirely, of the amœbic variety and most cases were seen during the months of August and December, corresponding with the rise and ebb of the Nile. Two at least of the fatal cases died from hepatic abscesses and one from perforation of the colon; four cases were terminal infections. In addition to the above cases 21 patients were admitted with the diagnosis of liver abscess. Dysentery was actually present in six of these cases and in three others a history of more or less severe intestinal disturbance was obtained. Observations made in 18 cases showed enlargement of the liver upwards in five, downwards in nine, and in both directions in four; in two the diaphragm was perforated. Two patients who recovered appeared to have a diffuse hepatitis rather than a localised abscess, for no pus could be found on exploration and the symptoms subsided under observation. 15 patients were operated on, with six deaths.

The ordinary exanthemata, with the exception of scarlet fever, are common, but definite statistics are unobtainable. Small-pox and typhus fever are frequently seen, and epidemic outbreaks of relapsing fever periodically occur. The last disease is rarely recognised before the infection of a prison by recent arrivals from a village centre. The uneducated native takes little or no notice of fever, his mind is only troubled by the accompanying constipation. It is only when the patient is under careful medical supervision that the characteristic relapses, which may only last a day or so, arouse suspicion as to the nature of the fever. The incidence of enteric fever among native Egyptians has been disputed, but there can be no doubt that the disease prevails, although to a much less extent than in European residents. Last year 13 patients (12 Egyptians and 1 Greek) were admitted with continued fever which was proved by the clinical course and agglutination test to be enteric. The ages of the patients ranged from 3 to 30 years and they were all admitted between March and November. Only one patient had a relapse and only one—the Greek—died.

Other specific fevers such as pneumonia and rheumatic fever require no special mention, and plague and cholera have been kept at a distance. Short attacks of fever are common and if severe are generally diagnosed dengue, which caused a widespread epidemic in 1906. Longer fevers of indefinite character are also frequent and though occasionally proof of malaria or Malta fever is obtained most cases cannot be so diagnosed and are regarded as forms of para-typhoid infection.

In spite of the constant irrigation of the soil malaria is remarkably uncommon in Lower Egypt and is confined to certain districts, whereas it is very prevalent in the southern parts of the Soudan. A characteristic attack was shown by only two patients; in several other suspected cases the blood examination was negative. Confirmatory evidence of the infrequency of this malady is afforded by its rarity among Europeans. Contrasted with this infrequent observation of malaria the prevalence of chronic enlargement of the spleen—generally associated with hepatic disease—is very striking. For the purpose of classification such cases may be grouped under three headings:—

—	Male.	Female.	Total.	Died.	Average age.
(A) Splenomegaly	12	1	13	1	26
(B) Enlargement of liver and spleen	15	9	24	1	21
(C) Cirrhosis of liver ...	52	16	68	15	32

A spleen large and firm enough to be easily palpable is often found on routine examination of patients admitted for various diseases, such as pellagra and ankylostomiasis, but without any constant association. In the cases tabulated above (Group A) the enlargement of the spleen was greater, reaching nearly to the umbilicus, and was unassociated with other disease. Four recent cases in which the spleen reached beyond the umbilicus were examples of spleno-medullary leukæmia and are not included. In the present group (A) a history of fever was constantly obtained, but in only four instances was it suggestive of malarial infection. Slight fever and a local pain after food, due to peri-splenitic adhesions, were the usual symptoms. It is certain that some of these cases (A) were due to hepatic cirrhosis which passed unnoticed. Examination of the blood and splenic puncture failed to show either malarial or Leishman-Donovan parasites. In the great majority of cases enlargement of the spleen was associated with, or dependent upon, gross hepatic disease. For clinical purposes it is useful to recognise in this division the two groups of cases (B) and (C), which, however, represent only successive stages of the same process and not separate morbid entities. Medical advice is seldom sought till ascites develops; hence the large numbers in group (C). In the absence of etiological proof it is impossible to assign all these cases to the same category. Thus 8 out of the 24 patients in group (B) were under puberty and were possibly examples of congenital syphilis, although in only one instance were confirmatory signs present. The chief facts gathered from an analysis of all the cases may be shortly summarised. The patients came from all parts of Egypt and were all of Egyptian nationality except one Italian who was an alcoholic. The particulars of age and sex are given in the above table. No evidence of any family or village infection could be obtained. The onset of the disease was insidious but usually marked by fever of an irregular type, often accompanied by intestinal disturbances lasting some weeks or months. An accurate account of the early symptoms and the duration of the disease—probably years rather than months—is very difficult to obtain from uneducated patients. Progressive emaciation is a constant symptom, giving the patients a characteristic facies in the later stages of the disease. The development of ascites was commonly followed by disturbance of the general circulation, œdema of the legs, albuminuria, and congestion of the lungs. Hæmatemesis and melæna were very rare symptoms and jaundice was only observed as a terminal event in two cases. In the wards the temperatures of the patients showed irregular oscillations, from 36·5° to 37·5° C. or higher. A few patients had distinct febrile exacerbations lasting one or more days. Most cases with ascites needed tapping, which was repeated on an average every ten days, about eight kilogrammes being withdrawn each time. Talma's operation was performed on two patients with at least temporary benefit.

By the courtesy of Professor A. R. Ferguson I am enabled to give the results of his pathological investigations. The blood shows moderate anæmia with reduction of the leucocytes. The mononuclear cells, especially the larger varieties, are increased at the expense of the polynuclear in uncomplicated cases. Most patients further show an eosinophilia, probably dependent on a concomitant worm infection. In no film of blood taken from the finger or spleen during life nor in any of the organs after death were malarial or Leishman-Donovan parasites found. Post mortem the liver weighed on

an average 1225 grammes and showed a hypertrophic cirrhosis with perihepatitis. The spleen was always enlarged, averaging 940 grammes in weight, and was usually adherent to the parietes. There was no irregular scarring of the liver to suggest syphilis nor any pigmentation of the organs as in malaria.

From the foregoing brief description it is evident that this cirrhosis does not conform to any recognised type. Alcoholism and syphilis can be excluded in nearly all the cases and there is no proof of malaria or kala-azar. Bilharzial cirrhosis of the liver may possibly account for a few, but it was not found in any of those examined post mortem, nor is bilharziosis more prevalent among the subjects of cirrhosis than among other patients. The trend of the evidence, both clinical and pathological, is in favour of a specific infection (probably protozoan) rather than of any dietetic cause. The relationship of this hepatic disease to amœbic infection is at present under investigation.

Tuberculosis is widespread, and both medical and surgical wards receive a large number of cases. The hospital mortality of pulmonary cases is high (35 per cent.) owing to the advanced state of the disease on admission. No case of meningeal tuberculosis was seen, but very few children are brought to hospital for acute diseases. As in all Eastern countries, leprosy is endemic in Egypt but the cases admitted for complications, &c., are too few to permit of analysis. Another class of patient unfamiliar in England are those suffering from snake-bites and scorpion stings or from homicidal poisoning. Arsenic is the favourite drug for the latter purpose as it can easily be obtained as a depilatory; stramonium is often given to stupefy the victims of an intended robbery. Drunkenness is not uncommon among the lower classes, but chronic alcoholism is quite rare in the country districts. Indulgence in hasheesh smoking is widespread but secret, hence cases of acute intoxication are not brought to hospital. Habitués of the drug are apt to develop mania after operation just as alcoholics may show delirium tremens. Dr. J. Warnock of the Government asylum states in his report (1907) that 10·8 per cent. of lunatics admitted were chronic hasheesh smokers.

Among general metabolic diseases diabetes is unusually common; 20 male and eight female cases were under treatment. Gout appears to be almost unknown, but rickets is frequently seen, though not so common a disease as at home. Lardaceous disease is curiously rare considering the prevalence of chronic suppurations. Osteo-arthritis is by no means rare and is relatively more common among the Soudanese than Egyptians. It appears to have been very prevalent in Nubia from the evidence of prehistoric skeletons. Cardiac and renal diseases show approximately the same incidence as in England. The hot summer appears responsible for many cases of heart failure. Arterio-sclerosis is common, probably owing to excessive smoking and the prevalence of syphilis. On the other hand, aneurysm is distinctly rare, only two cases being admitted in the last two years. Respiratory diseases are more common than might be expected: 50 cases of bronchitis and 90 of chronic bronchitis and emphysema were admitted, many of the latter with heart failure. This frequency probably arises from the rapid fall of temperature at sunset, especially in winter, the thin clothing of the peasants and the close atmosphere of their dwellings, for the dry climate is excellent in such diseases if proper precautions be taken.

The chief feature in the incidence of disorders of the digestive organs here is the rarity of many organic diseases common in Europe. Only three cases of peptic ulcer were admitted, of which two were duodenal; all occurred in males. This is more surprising when the prevalence of severe anæmia is remembered. Gastric carcinoma is still rarer, only one doubtful case has been seen in two years. Minor maladies—dyspepsia and diarrhœa—are common. A slight degree of gastric dilatation is frequently present and may be due to the custom of eating one large meal, chiefly vegetable, daily. The Fast of Ramadan, when no food may be eaten or fluid drunk between sunrise and sunset for a month, insures an overfilling of the stomach at the long-deferred meal, and often leads to some permanent dilatation.

The types of liver disease most frequently seen have already been described. Gall-stones are very uncommon, even in the post-mortem and dissecting rooms. Certainly no one can accuse the fellaheen women of leading sedentary lives. Jaundice is generally of an infectious nature and is liable to attack the European resident; nine Egyptian cases were admitted. The incidence of nervous diseases shows certain differences from that in England. Locomotor ataxia, for instance, is rare, for only three Egyptians suffering from this disease were admitted last year. Dr. Warnock reports from the Government asylum that 7 per cent. of the lunatics admitted were cases of general paralysis. No case of chorea or of obvious hysteria was brought to hospital, since these disorders are attributed to demoniacal possession and are therefore considered amenable only to spiritual influences. For these spasmodic affections, including even such diseases as whooping-cough and hydrophobia, appropriate religious exorcisms are practised. Sometimes the experiment of frightening the obsessed individual with a drawn knife is tried in the hope of scaring the evil spirit.

Pellagra occurs in Egypt, as in all countries where maize forms the staple food. Most of the cases (40 in all) were admitted in the spring months, when the eruption is most pronounced, and the majority were also affected with ankylostomiasis. In a few cases the nervous symptoms predominated and one patient had curious attacks of delirium and coma resembling uræmia, from which he recovered. Three cases proved fatal. Pellagra was the cause of insanity in 16 per cent. of the asylum patients.

Surgical Section.

A large proportion (two-fifths) of surgical patients are casualty cases, for burns, fractures, and crushes are frequent accidents amongst a careless people. The number of cases of fracture exceeded 400 and included 49 fractures of the vault and 12 of the base of the skull. Fracture of the ulna has been shown by Professor G. Elliot Smith to be common in prehistoric skeletons, and is frequently seen nowadays, as a consequence of warding off a blow from the heavy staff which most natives carry. The fellah is slow to seek surgical aid, and many cases of injury come to hospital only when gangrene has supervened. Erysipelas is very prone to complicate septic wounds and tetanus is unfortunately common. 15 cases of the latter disease were treated, with but three recoveries. The incidence of surgical disease differs from that at home, owing to the prevalence of bilharziosis, urinary calculus, and hydrocele, and the rarity of glandular carcinoma and appendicitis. Although many cases of bilharziosis are seen in the medical wards, more patients are transferred or admitted directly to the surgical side. The varied symptomatology of this common infection depends primarily on the situation and extent of the areas infiltrated with ova by the adult worms which infest the tributaries of the portal vein and are enabled by the numerous anastomosing channels to reach neighbouring parts about the pelvis. The following table shows the clinical distribution of bilharzial lesions in 206 patients admitted for various manifestations of the disease:—

—	Male.	Female.	Total.	Deaths.
Bladder	49	11	60	8
Large intestine	52	3	55	8
Bladder and intestine ...	17	2	19	4
Prostate	2	—	2	—
Urethra and penis	58	—	58	7
Vagina	—	1	1	—
Perineum	11	—	11	—
Total	189	17	206	27

These figures serve to show the various sites of the parasitic lesions but they do not bring out the real incidence of the disease nor its true proportionate distribution in the body. Bilharziosis of the bladder is so common among the fellaheen that the minor symptoms—pain and hæmaturia—occasion no complaint. Only the worst cases, therefore—those complicated by stone, septic cystitis, or anæmia—are admitted and the deaths in all cases were due to septic involvement of the kidneys or to general septicæmia. The large intestine is more commonly involved than appears on casual investigation, since the signs are by no means so definite. The symptoms vary from a chronic diarrhœa to a severe colitis. It may be stated that a discharge of blood and pus in the stools lasting over six months is highly suggestive of bilharziosis. The diagnosis cannot always be made by feeling polypoid growths on rectal examination since the disease may lie high up, in the sigmoid flexure or colon; a

microscopic examination of the stools for ova is then necessary. Bilharziosis of the urethra or adjoining structures is much more likely to come early under observation, since it generally leads to obstruction of the urethra, often with the development of fistulæ. In some extensive cases a pseudo-elephantiasis of the penis was induced. Stricture of the urethra in Egypt is almost entirely bilharzial and not gonorrhœal in origin, in spite of the prevalence of the latter disease.

Under the heading Perineal are included cases of bilharzial deposits in the perineum and ischio-rectal fossæ unconnected with mucous surfaces. It is the form of the disease most amenable to surgical treatment. The comparative rarity of the peculiar peri-portal cirrhosis caused by bilharziosis has already been mentioned. No case was encountered last year and but one in the first six months of the present year (1908). Lateral spined ova were, however, found not infrequently in the stools of patients, though never in the urine. Although no exact figures can be given in the clinical table, pathological evidence shows that the ureters may be attacked by bilharziosis without any obvious bladder infection. It is highly probable that the prevalence of renal colic (17 cases) and hydronephrosis (three cases) is dependent on partial occlusion of the ureter by bilharzial deposits. Other parasitic diseases of surgical importance are elephantiasis and hydatids. Of the former 12 cases were admitted; in eight the scrotum was involved, in three the vulva, and in one the penis. Hydatid disease would undoubtedly be common were the dog domesticated and not banned as unclean; three cases affecting the orbit, kidney, and peritoneum respectively were seen.

The influence of race and climate on the incidence of new growths, especially carcinomata, is well exemplified in Egypt. Simple tumours are found in the same proportion as at home, with the exception of the uterine myomata, which are well known to be specially frequent among the Soudanese. Out of 33 patients admitted for myomata during the last two years, no less than 8 were Soudanese, a ratio of 1 in 4; whereas the ratio in total admissions is only 1 in 40. Malignant tumours show a preponderance of sarcomata (43 cases last year) and surface carcinomata (29 epitheliomata and 8 rodent ulcers) over glandular carcinomata (24 cases). Epithelioma affects the usual sites, most commonly the tongue (4 cases), lip (7 cases), or old scars (4 cases). An interesting case of genuine epithelioma of the tongue was observed in a boy whose age cannot have exceeded 16 years. Unfortunately, a large proportion of patients came with the disease too far advanced for radical treatment. Glandular carcinoma is uncommon and only 6 cases of mammary cancer were admitted. The uterus was the site of disease in four patients and the stomach in only one. Carcinoma may follow on the chronic irritation of bilharzial disease. Thus 2 cases of cancer of the rectum and 4 of the bladder appeared to be implanted on bilharziosis. At one time this condition was believed to be far commoner, since the hard infiltrating masses of bilharzial tissue often simulate cancer very closely, and the diagnosis of suspicious cases depends almost entirely on the microscope.

Among a number of patients admitted for deformities were five cases of extensive cicatricial contraction after burns; in the congenital group were two cases of imperforate anus. Although 11 patients with hare-lip have been admitted in the last two years no case of cleft palate has been seen. It must be supposed, therefore, that the unfortunate subjects of this defect have not survived their handicap, for the infant mortality in Egypt is very large. Tuberculosis is very common and accounted for over a sixth of the admissions for surgical diseases. A table of the main parts affected is appended—

—	Male.	Female.	Total.
Glands	52	57	109
Bones	37	23	60
Joints	28	13	41
Spine	19	13	32
Bursæ, &c.	2	0	2
Skin (ulcers) ...	13	2	15
Testis	8	0	8
Grand total ...	159	108	267

Sufferers from glandular enlargement are not slow to seek surgical advice. The unfortunate patient is promptly nicknamed "the pig" and should the disease be bilateral the likeness to the unclean animal is so aggravated that an operation is eagerly invited. Two cases of Madura foot but none of actinomycosis were treated.

Among local diseases those affecting the genito-urinary organs are the most important. The well-known frequency of urinary calculi in Egypt is largely attributable to the prevalence of bilharziosis of the bladder. Altogether 93 patients were admitted for stone, including eight cases of urethral impaction. The experience of surgeons in Cairo is that stone is becoming less frequent of late years; but this may be due to the greater number operated on in the provinces nowadays. The following table shows the choice and results of operation in the cases treated at Kasr-el-Ainy last year:—

Operation.	Number.	Average stay after operation.	Deaths.
Lithotrity	63	3 days.	5
Perineal lithotomy	12	20 ,,	2
Suprapubic lithotomy ...	9	32 ,,	1

Perineal section was generally chosen for the worst cases in which a stone complicated a septic, often bilharzial, bladder, hence the greater mortality. Hydrocele is very common but does not appear to be dependent on any specific cause. 87 cases were admitted, eight of which were complicated by hernia and five by infection from septic tapping. Prostatic hyperplasia is tolerably common. It needs to be differentiated carefully from the enlargement due to bilharzial infiltration since in this latter condition the organ is firmly adherent and is unsuitable for enucleation.

There was an interesting series of cases showing septic infection of the spermatic cord and the cases are to be published.[1] They varied in severity from a mild inflammation of the structures of the cord with thrombosis of the pampiniform plexus to an acute suppurating cellulitis of the parts. The condition is the same as that reported from Ceylon under the title of "Endemic Funiculitis," by Dr. Aldo Castellani[2] and previously by Mr. F. C. Madden of this hospital,[3] under the title of "Cellulitis of the Spermatic Cord." A large number of patients are admitted with old sinuses due to necrosed bone or actual sequestra; it is rare to see such cases in the acute stage. The fellah does not think of calling in skilled surgical assistance until his disease has exhausted the art of the village barber. The better educated Egyptian will go the round of one medical man after another to obtain a large number of opinions, in the belief that in the multitude of counsellors there will be safety. As might be expected, this procrastination generally results in disease getting a long start of efficient treatment.

Apart from casualties, acute abdominal cases are infrequent. The common causes of acute peritonitis at home—appendicitis and perforated gastric ulcer—are rare in Egypt. Only six cases of appendicitis were treated; two had perforated. The hard manual labour of the fellaheen predisposes them to hernia. Of 129 cases, 8 were of the ventral and 121 of the inguinal variety; 14 were strangulated. There were 54 cases of hæmorrhoids and 9 of prolapse of the rectum admitted. The onset of these disorders was commonly ascribed to tenesmus in chronic dysentery (amœbic or bilharzial) or to strain in vesical disease (bilharziosis or calculus). A few patients, indeed, admitted in the last stages of dysentery complained only of piles! Goitre is not uncommon but did not seem to be endemic in any special locality. The usual preponderance of the disease in females was observed (7 out of 9 patients). Two more patients were treated in the medical wards for the exophthalmic variety.

Ophthalmic Section.

The importance of this section is evident from the number of patients (1400) admitted, the great majority of whom were suffering from granular ophthalmia and its complications.

[1] A paper recording these cases will be found at p. 227 of our present issue.

[2] THE LANCET, July 4th, 1908, p. 15.

[3] THE LANCET, Feb. 23rd, 1907, p. 505.

The extraordinary prevalence of this disease is well illustrated by the result of a school inspection, quoted in Sir Eldon Gorst's report, where over 96 per cent. of the pupils were affected and 61·4 per cent. had less than normal vision. Among the eye out-patients the disease is universal and was severe enough in 215 cases to need in-patient treatment. The incidence of the common complications is shown in the following table, which excludes pannus and keratitis, since these occurred in nearly every case:—

Trichiasis	377 cases.	Mucocele	20 cases.
Entropion	13 ,,	Corneal ulcer (simple)	130 ,,
Ectropion	8 ,,	Leucoma	105 ,,
Symblepharon	2 ,,	Staphyloma	36 ,,

Errors of refraction form but a small part of ophthalmic practice. The apparent short-sightedness of most Egyptians is due to the necessity of avoiding a corneal opacity in reading. Cataract, as in India, is very prevalent. 160 cases were admitted; the majority were of the senile variety, but many occurred in younger patients the subjects of ankylostomiasis. Acute glaucoma appears rare but primary chronic glaucoma is extremely common. The 49 cases admitted represent only a small proportion of the total cases seen as out-patients, for the majority were too far advanced for operation. A few cases of sudden and often permanent blindness due to an excessive dose of medicine were admitted. The ophthalmoscope showed intense constriction of the retinal arteries and a pale retina; later, optic atrophy. In some cases the drug was given as a vermifuge and was identified as filix mas; the resultant blindness was accompanied by temporary paralysis.

Gynæcological Section.

Although only established last year on a proper basis this department secured 250 patients, including 33 labour cases. The peculiarities of obstetric practice are social rather than medical. Labour among the lower classes is easy and remarkably rapid, not an unmixed blessing, as the powerful expulsive efforts of the uterus are apt to cause considerable tearing of the pelvic floor, with subsequent prolapse of the vaginal walls or uterus. The harem system excludes the attendance of the male practitioner in child-birth. Hence difficult labours rarely if ever receive prompt medical assistance and the mortality is very high. Delay in the second stage is commonly believed to be caused by an "affreet" (spirit) holding the legs of the child. To meet this complication the superstitious midwife will insert a potato in the vagina in the hope that it may induce the spirit to transfer his hold. Should this be unsuccessful another midwife is called into consultation. She will probably consider this treatment unsuitable to the particular "affreet" engaged and will recommend another bribe, such as an onion, to be inserted. It is evident, therefore, that the training school for midwives attached to the hospital has a wide sphere of work before it. The present conditions are shown by the number of cases of vesico-vaginal fistula (16) admitted caused by sloughing after prolonged labour.

The custom of clitoridectomy is universally prevalent in both Lower and Upper Egypt and is responsible for a few cases of hæmatokolpos. The cicatrised outlet, however, rarely imposes any formidable obstacle to labour. Several interesting cases worthy of mention were observed. They included a lithopædion incarcerated for four years, successfully removed, and a case of difficult labour with shoulder presentation due to the child's head having penetrated the septum of a uterus duplex.

Skin and Venereal Section.

The most noteworthy feature in the incidence of skin diseases is the prevalence of favus, which affected 14 of the 126 cases admitted to this section and many of the young patients in the general wards. Eczema and lupus vulgaris and erythematosus occur as commonly as at home. Several interesting varieties of disease of unknown etiology were seen. In particular three cases of a peculiar hyperplastic dermatitis, characterised by a localised infiltration of the dermis with subsequent marked overgrowth of the epithelium, were treated in the surgical wards. Venereal disease is widespread and shows the same features as in England. The hot climate may be responsible for the more rapid development of the stages of syphilis. Extragenital chancres are more frequently observed, while the early macular rashes are difficult to detect on the darker skins. Congenital disease is likewise common but the characteristic Hutchinson teeth are rarely seen. This is probably due to the low incidence of dental caries.

Anti-rabic Section.

Last year 424 patients from all parts of Egypt were lodged in hospital while undergoing inoculation treatment at the Anti-rabic Institute conducted by the Public Health Department. Three cases developed hydrophobia and died; two of these had been bitten by dogs and one by a wolf.

In conclusion, I wish to express my thanks to the members of the hospital and school staff for freely placing at my disposal much information gained by long experience, and to the Director-General of the Public Health Department for permission to publish this abstract. Many outside factors—social and economic—determine the numbers and type of hospital patients; hence it would be unjustifiable to apply the foregoing statistics unreservedly to the population at large. Into the influences exerted by the different racial and climatic conditions prevailing in Upper and Lower Egypt and on the coast I am unable to enter, but can only state our hospital experiences which apply more particularly to the southern parts of the Delta.

A PRECEPT OF THE ARCHBISHOP OF CANTERBURY FORBIDDING BARBERS TO CARRY ON THEIR TRADE ON SUNDAYS.

BY D'ARCY POWER, F.S.A.

A SHORT time ago I bought at a secondhand bookshop the precept which is here printed. It is dated April 19th, 1445. The parchment is gnawed by mice, but it is clearly written in courthand and it has been transcribed for me by Messrs. Hardy and Page, record agents, of London, to whom I owe my thanks. The English translation of the Latin original runs as follows:—

(*Translation.*)

John, by the permission of God, Archbishop of Canterbury, Primate of England and Legate of the [holy] Apostolic See, sufficiently and lawfully deputed judge, together with the others underwritten, by the within written authority of the Apostolic See, to the venerable and religious man, the Abbot of the monastery of St. Peter of Westminster, and to all and singular incumbents with cures and without cures in the [precincts ?] of the city and suburbs of London and of the jurisdiction of the abbot aforesaid, Greeting in the Saviour of all men. Know ye that we have lately received apostolic letters whole and entire, sealed with a bull in the manner of the Roman court, having no sign of defect or suspicion of fraud, in these words: Eugenius ..... the servant of the servants of God, to his venerable brothers the Archbishop of Canterbury and Bishop of Winchester, and his beloved son the Dean of the church of London, Greeting and apostolic benediction. We gladly yield to the honest desires of supplicants, and reply to them with opportune favours. By a representation formerly made on the part of our well-beloved sons, the keepers and wardens of the art or mystery of the barbers dwelling in the city of London, to Pope Martin V., our predecessor, of blessed memory [it was shown] that whereas at a provincial council long since held by Thomas, Archbishop of Canterbury and Primate of England, and Legate of the Apostolic See, of good memory, and by thy suffragans, brother Archbishop, and other prelates of the province of Canterbury, it was reported that the barbers of the cities, towns and places of the said province, and especially [of the said ?] city and the suburbs thereof, contrary to divine law, the canonical ordinances and public credit, have presumed to keep their houses and shops open for the exercise of the same art on the Lord's days on which the Lord decreed that we should abstain from labour, and have dared publicly to exercise the same art; the same Thomas the Primate, with the advice and assent of the same suffragan prelates and clergy, decreed and ordained that the same barbers should be forthwith restrained from such their presumption by public inhibitions under penalty of [excommunication ?] and canonical censure, charging and commanding the ecclesiastical persons then expressed that on every Sunday and feast-day they should solemnly publish and cause to be published this statute and ordinance in the churches there, and should ..... inhibit and cause to be inhibited the said barbers, under pain of excommunication, from keeping their houses or shops open on the aforesaid Sundays for the said purpose, or causing them in any way so to be kept open; and a petition was also made on behalf of the same keepers and wardens to our same predecessor that he would deign with apostolic benevolence to confirm the statute and ordinance aforesaid with the protection of apostolic force. Our same predecessor acceded to these petitions, and, ratifying and approving the statute and ordinance aforesaid, and all things depending thereon, confirmed them by apostolic authority, and fortified them by the protection of his writing, with the commands of his letters in order, to all and singular the prelates and parsons of the said province, that they should solemnly publish the statute and ordinance, and the contents and effect of the same letters, by the same authority, when and where they should think fit, and should cause such statute and ordinance to be irrefragably observed by means of ecclesiastical censures and

other fitting legal remedies; and whensoever they should be lawfully thereto required, on the part of any of those whose business it might be, they should, on the aforenamed Sundays and festival days, when there is the greatest concourse of people there to divine service, publicly announce, and cause to be announced by others, the excommunication of all and singular those barbers, present and to come, who should be known to have incurred such sentence of excommunication by reason of transgression of the same statute and ordinance, and that they shall be shunned by all until they have deserved to obtain the benefit of absolution from the said sentence of excommunication, as in the letters of our said predecessor thereupon drawn up more fully is contained. But whereas, as is shown in the petition lately laid before us on behalf of the said keepers and wardens, certain members of this art or mystery, dwelling within the places and limits of the churches and monasteries of the province and of the city and diocese, and especially of the church of St. Martin le Grand of London and of the monastery of Westminster in the said diocese, and alleging the exemptions of themselves and of such places, made both by apostolic and royal authority, and by reason of such exemption vilipending both statute and ordinance and the mandate, presume on the aforenamed days to keep their houses and shops open for the purpose aforesaid, We therefore, reprobating this rash presumption, duly ..... [hereby] decreeing and declaring in our aforesaid discretion that such persons and places exempt are comprehended within the said statute and mandate, [and] by apostolic writings that you or two or [? one of you] cause [the said ?] or other such statute and ordinance, to be irrefragably observed by the persons and in the places exempt aforesaid wheresoever you please, [as] elsewhere, according to the form and tenor of the letters and mandate of our said predecessor. Given at Rome, at St. Peter's in the year one thousand four hundred and thirty-one of the Incarnation of our Lord, 2 Non, April, in the first year of our Pontificate. By authority of which letters apostolic we charge and command you, that you admonish and effectually persuade all and singular the barbers living within your jurisdiction that they and all of them, on the Lord's days, on which our Lord decreed we should refrain from labour, shall by no means keep open their houses and shops for the exercise of their trade, or carry it on themselves or have it carried on by their servants, under penalty of the greater excommunication. And if you shall find any protesting against this, or opposing it, you shall peremptorily cite, or cause them to be cited, that they and each of them appear before us, or the auditor of our court for the hearing of causes and business, on the fifteenth day after the citation to them and each of them [issued], wheresoever we shall then be in our city, diocese or province of Canterbury, to set forth reasonable cause, if such they may have, why the said sentence of excommunication should not be promulgated against them, and further to do and receive what justice requires in that behalf. And what you shall have done in the premises you shall duly certify to us or our auditor in such said time and place, by your letters patent containing the tenor of these presents, or that one of you who shall execute our mandate shall so certify. Given at our manor of Lambeth on the nineteenth day of April in the year of our Lord one thousand four hundred and forty-five, and in the second year of our translation.

John, Archbishop of Canterbury, was John Stafford, who succeeded in 1443 Archbishop Chichele, the founder of All Souls' College, Oxford. He was the son of Sir Humphrey Stafford, called "of the silver hand," sheriff of Somerset and Dorset, and was educated at Oxford, where he was D.C.L. before 1413. In 1419 he became Dean of the Court of Arches; in 1422 Dean of St. Martin's, London, where is now the General Post Office; in 1423, Dean of Wells; and in 1425 Bishop of Bath and Wells. In 1421 Stafford was made Keeper of the Privy Seal; in 1425 he was one of the Lords of Council during the minority of the king and he accompanied the young king to France in 1430. After his return to England he was made Chancellor in March, 1432, and he is the first who is known to have been called "Lord Chancellor." The novelty of the title is interestingly brought out in the precept, where he is content to describe himself simply as "judex." Stafford was a member of the commission appointed to try the offenders in Jack Cade's rebellion. He died at Maidstone on May 25th, 1452, and was buried in the "martyrdom" at Canterbury Cathedral. He was a cautious and experienced official who did no harm if he did but little good. In 1444 he decreed that in future no fairs or markets should he held in churches or churchyards on the Lord's day or holy days except in the four weeks of harvest.

The Abbot of Westminster, to whom the precept is also addressed, was Edmund Kerton, who became a monk of Westminster in 1403 and graduated B.D. from Gloucester Hall (Worcester College), Oxford, where he was prior of the Benedictine scholars in 1423. He visited Rome and preached before Pope Martin V. (1417–1431) and in 1437 he attended the council of Basel where he was cited to appear before Pope Eugenius IV. on a charge of heresy. Kerton, whose real name seems to have been Cobbledike, was elected Abbot of Westminster in 1440. He resigned on account of ill health in 1462 and died in 1466. His tomb in St. Andrew's Chapel, Westminster Abbey, formed part of a screen which he had himself designed. It has long since disappeared.

Pope Eugenius IV. was Gabriel Condulmier, a Venetian. His father died young and after distributing his fortune of 20,000 ducats to the poor in a fit of religious enthusiasm Gabriel entered the monastery of S. Giorgio d'Alga in Venice with his cousin Antonio Correr. Antonio's uncle was unexpectedly elected Pope Gregory XII., when Condulmier was made Bishop of Siena and Antonio Bishop of Bologna; they were shortly afterwards chosen cardinals of the United Church. Condulmier was elected Pope on March 3rd, 1431, and he died at the age of 67 on Feb. 23rd, 1447. During his pontificate, and chiefly at his instigation, Fra Angelico decorated the Vatican chapel and the Pantheon was restored; his gates still adorn the central doorway at St. Peter's. In person he was tall and spare, handsome when young, imposing when old: a martyr to gout, though he drank nothing but water. He slept little and was reserved and retiring, rarely lifting his eyes from the ground on any public occasion. He was singularly uncultivated and was in no way distinguished for political capacity, yet he had to manage the affairs of the church at one of the most dangerous crises of her history.

Mr. Sidney Young, F.S.A., states in "The Annals of the Barber-Surgeons" that Thomas Arundell, Archbishop of Canterbury, denounced the barbers of London for Sunday trading in 1413. His precept is addressed to the mayor and aldermen of London, and after threatening the penalties of the greater excommunication it goes on to say: "But, dearest children, seeing that so greatly has the malice of men increased in these days, a thing to be deplored, that temporal punishment is held more in dread than clerical, and that which touches the body or the purse more than that which kills the soul, we do heartily intreat you, and, for the love of God and His law, do require and exhort you that taking counsel thereon, you will enact and ordain a competent penalty in money to be levied for the Chamber of your City, or such other purpose as you shall think best, upon the Barbers within the liberty of your City aforesaid, who shall be transgressors in this respect; that so, at least, those whom fear of the anger of God doth not avail to withhold from breach of His law, may be restrained by a scourge inflicted upon their purse, in the way of pecuniary loss." An ordinance was made in consequence of this precept to the effect that no barber, his wife, son, daughter, apprentice, or servant should work at such craft on Sundays within the liberty of the city either in hair cuittng or shaving on pain of paying 6*s.* 8*d.* for each offence; 5*s.* thereof to go to the new work at the Guildhall and the remainder to the wardens or masters of the barbers within the city.

The document which is here printed recites the precept quoted by Mr. Sidney Young. It is dated 32 years later and is directed, as the context explains, against the barbers who shaved on Sundays and sheltered themselves by living in places exempt from ordinary episcopal visitation. The fact that such a second precept was issued has been lost sight of and for this reason, as well as for its interest as a contribution to a study of the development of Sunday observance in England, I have thought it worthy of preservation in the pages of THE LANCET.

THE HOSPITAL FOR INVALID GENTLEWOMEN.—H.R.H. the Duchess of Albany laid the foundation-stone of the new buildings for this hospital at 19, Lisson-grove, N.W., on Monday, Jan. 18th, at 3 P.M. Her Royal Highness was received by Lord Waldegrave (president), Mrs. W. Bridgeman (lady president), Mr. W. Bridgeman, M.P. (the treasurer and chairman of the building committee), and Mr. Hugh Parker (the honorary secretary). It is hoped that before the new buildings are finished there will have been such a liberal response to the appeal for the £12,000 required for the purpose as will allow the hospital to start free from debt upon its extended work. The medical report for 1908 shows that 177 cases were treated with 149 recoveries. The first lady superintendent of the hospital was Miss Florence Nightingale who left it to enter upon her Crimean mission. Since her day it has provided medical and surgical treatment and nursing for many gentlewomen of small means, such as the wives and daughters of clergymen, naval, military, and professional men, governesses, and artists. The weekly fees payable by patients range from £1 5*s.* to £2 10*s.* The hospital's present premises are at 90, Harley-street, W., the lease of which will shortly expire.

THE LANCET RELIEF FUND.

THIS Fund, which came into operation on the 1st of February, 1889, has for its Almoners the President of the Royal College of Physicians of London (Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., M.D. Lond.), the President of the Royal College of Surgeons of England (Mr. HENRY MORRIS), the President of the General Medical Council (Sir DONALD MACALISTER, K.C.B., M.D. Cantab., LL.D., D.C.L., F.R.C.P. Lond.), and Mr. THOMAS WAKLEY, L.R.C.P. Lond., with Sir THOMAS SMITH, Bart., K.C.V.O., F.R.C.S. Eng., as Honorary Auditor.

Almoners.

FOR the guidance of those seeking assistance and of those desirous of recommending deserving cases, it may be useful to record that THE LANCET Relief Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, which is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to their widows and orphans, in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require. In the case of widows and orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.

Scope of the Fund.

WHEN the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established, and, as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. As the Almoners still receive applications for assistance for cases which are obviously of a *chronic* character, it is thought advisable to append a statement concerning cases of this nature which appeared in THE LANCET of Feb. 16th, 1889:—

Chronic Cases ineligible.

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—

And who, it may be again pointed out, are likely to be benefited permanently thereby.

Twentieth Annual Report of the Almoners,

For the year ending December 31, 1908.

IN presenting their Twentieth Annual Report the Almoners have to record that the balance in hand on Dec. 31st, 1907, was £148 1*s.* 2*d.*, to which on Jan. 1st, 1908, the Proprietors of THE LANCET added the sum of £300, making, with £35 repaid on loans, a total sum of £483 1*s.* 2*d.* available for grants during the year 1908.

The number of applications for assistance received by the Almoners during the year was 48, of which number 10 were rejected by the Secretary as quite outside the scope of the Fund; 8 were declined by the Almoners after due consideration; 9 application forms were not returned—doubtless owing to the applicants realising that their cases were not of a nature qualifying them to receive assistance from the Fund; 20 applicants were relieved by gifts or loans of money ranging from £5 to £25; and in 1 case (apparently thoroughly deserving) the assistance sought for the orphan children of a medical man had to be declined because no relative could be found who could give sufficient information to establish the identity of the parent, and thereby the eligibility of the applicants. The relief of these 20 cases, a detailed list of which is given in the accompanying Statement of Accounts, involved the expenditure of the sum of £246. The total amount voted by the Almoners since the commencement of the Fund is £6119 6*s.* 3*d.*

As in past years, the Almoners have received expressions of gratitude for the assistance which they have afforded to applicants—in some urgent cases the relief being given within a few hours of the application being received. Thus the timely help of the Fund has enabled more than one applicant to keep his practice together when pressing claims threatened to destroy his home and his means of livelihood; and the widow and the orphan have also been helped at the moment of their greatest need.

The cases of "chronic distress" brought to the notice of the Almoners are still far too many. Whilst sympathising with the applicants in their trouble, the Almoners are quite unable to help them. The Fund at their disposal is not intended for such cases and would be exhausted in the first month of the year were such claims to be met. The Almoners must again emphasise the fact that THE LANCET Relief Fund exists to meet cases of *sudden emergency*, and they will be especially obliged if gentlemen giving testimonials or recommending cases will bear this in mind.

The veteran Sir Henry Pitman, M.D., F.R.C.P., who had kindly acted as honorary auditor of the Fund since its inception up to the time of the annual meeting of the Almoners last year, died on Nov. 6th, 1908, at the great age of 100 years. The Almoners expressed their appreciation of his valuable services to the Fund in their report for 1907. On the resignation of Sir Henry Pitman at the last annual meeting the Almoners unanimously decided to ask Sir Thomas Smith, Bart., K.C.V.O., F.R.C.S., to fill the vacant post, and they are pleased to record his kind consent and to welcome him as a colleague.

In conclusion, the Almoners would point out that they will at all times be glad to have their attention called to any cases of genuine distress coming within the scope of the Fund, but they trust that those recommending cases or giving testimonials will first take steps to satisfy themselves of the *bona fides*, as well as of the suitability, of such cases before endorsing them. In the administration of such a Fund as this the Almoners are of necessity largely guided in their decisions by the testimonials accompanying the applications.

(Signed)

R. DOUGLAS POWELL. HENRY MORRIS.
DONALD MACALISTER. THOMAS WAKLEY.

Jan. 14th, 1909.

THE LANCET RELIEF FUND.

STATEMENT OF ACCOUNTS FOR THE YEAR ENDING DEC. 31st, 1908.

DR.	£	s.	d.	CR.	£	s.	d.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1908	148	1	2	By Loans:—						
,, Proprietors of THE LANCET, Jan. 1st, 1908 ...	300	0	0	Case No. 776	20	0	0			
,, Repayment of Loans:—				,, 777	25	0	0			
Case No. 734 ... ... 25 0 0				,, 784	15	0	0			
,, 745 ... ... 10 0 0				,, 802	10	0	0			
	35	0	0					70	0	0
,, Cheques unpresented:—				By Gifts:—						
Case No. 807 ... ... 15 0 0				Case No. 770	10	0	0			
,, 810 ... ... 15 0 0				,, 772	10	0	0			
	30	0	0	,, 775	10	0	0			
				,, 778	5	0	0			
				,, 780	5	0	0			
				,, 788	15	0	0			
				,, 789	10	0	0			
				,, 790	5	0	0			
				,, 791	16	0	0			
				,, 793	10	0	0			
				,, 797	10	0	0			
				,, 800	5	0	0			
				,, 801	15	0	0			
				,, 806	20	0	0			
				,, 807	15	0	0			
				,, 810	15	0	0			
								176	0	0
				Balance at Bank, Dec. 31, 1908 ...				267	1	2
	£513	1	2					£513	1	2

I find by the Banker's Book that the actual Balance on Jan. 1st, 1908, to the credit of the Fund was £148 1*s.* 2*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1908.

The balance at the Bank on Dec. 31st, 1908, was the sum of £267 1*s.* 2*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

January 8th, 1909. THOMAS SMITH, Hon. Auditor.

ANNUAL REPORT FOR 1907 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

II.

RETURNING to our notice of this report, the earlier portions of which were reviewed in THE LANCET of last week, we observe that Sir Shirley F. Murphy gives a satisfactory account of the behaviour of the common infectious diseases during the period dealt with in the report. In the decade last ended London suffered less severely from the more familiar epidemic diseases—the seven zymotics of Dr. Farr's time—than did any other of the larger English towns except Bristol, Bradford, and Newcastle-on-Tyne; but the London death-rate from six of the seven diseases was higher than that of any of the more important foreign cities except St. Petersburg. In the year 1907 the usual wide differences were observed in the epidemic mortality of the London sanitary districts—differences which might perhaps have been predicted with approximate accuracy by consideration of the social and sanitary circumstances of the respective populations. Thus, whilst the epidemic death-rate was only 51 in 100,000 living in Hampstead and 72 in Westminster it ranged upwards to 190 per 100,000 in Southwark, 211 in Poplar, and 301 in Shoreditch. Of small-pox only eight cases, none of which were fatal, occurred in the metropolis during the year, the reported cases being fewer in number than in any year since 1890 when notification of infectious disease first became compulsory. The fact that the spread of small-pox in London in 1907 was limited to eight cases proves the perfection of the isolation arrangements of the Metropolitan Asylums Board. But these arrangements, admirable though they are, cannot be relied on as security against future disaster; for the history of small-pox prevalence in other populous towns clearly shows that when infection has acquired a certain degree of diffusion amongst the inhabitants the most complete hospital provision has failed to stamp out the disease in a community largely unprotected by vaccination. That London is even now in that position is shown in the report, in which the county medical officer tells us that, "in respect of vaccination, London compares unfavourably with the provinces, and has done so for many years. During the first five years of the present decennium some improvement has been manifested, but the proportion, not finally accounted for, in regard to vaccination (including cases postponed) has, in London in each of these years, been more than double the proportion in the rest of England. In these years there were nearly 651,000 births in London, leaving, after subtraction of deaths, some 530,000 children under five years of age at the end of 1905. In 1902 there was a vast amount of vaccination of the London population, who, in the presence of small-pox, had resorted to public vaccinators and private practitioners for protection." From trustworthy information since received Sir Shirley Murphy estimates that the vaccinations in that year exceeded those in 1900 by more than 60 per cent., and that therefore some deduction is necessary from the figures based upon the proportion of "births unaccounted for." Nevertheless, he holds that there are good reasons for thinking that in 1905 there were in London over 100,000 unvaccinated children under the age of five years; and he justly concludes that "the existence of so large a proportion of unvaccinated children in London is necessarily always a standing danger, although considerable intervals of time may elapse without actual injury resulting."

Scarlet fever appears to have shown greater prevalence in 1907 than in any other year since the beginning of the present century, the proportion of reported attacks of this disease in each 1000 of the population having been 5·5, which is higher than the average rate in the decennium last completed by 0·7 per 1000. This abnormal prevalence of the disease does not appear to have been peculiar to London; indeed, the London death-rates from scarlet fever in 1907 were exceeded by those of Liverpool, Manchester, Birmingham, Sheffield, West Ham, Salford, and Leicester. As in previous years there was in 1907 a wide difference in the amount of sickness from scarlet fever in the several London boroughs. Thus whilst the ratio of reported cases to population at all ages did not exceed 24 per 10,000 in the City of Westminster and 29 in Chelsea, it rose to 80 per 10,000 in Woolwich and in Bermondsey, 99 in Bethnal Green, and 107 in Stepney. In every metropolitan borough, save four, scarlet fever manifested increased prevalence in the year under review.

In order to illustrate the influence of school attendance on the spread of scarlet fever the actual tables are given in the report. They show a great reduction in the number of reported cases during the summer holidays and a very decided increase in the weeks following the holidays. This is most apparent among children from three to 13 years of age whose sickness-rate shows a rise of 45 per cent. In the autumn of 1907 a steady and rapid rise occurred in Hackney, which was specially reported on by the medical officer of health of that borough. The special feature of this outburst was its relation to school attendance. The rise began early in June and increased steadily throughout that month and the next, after which a considerable fall took place. The period of remission in August corresponded closely to the summer closure of the schools and the subsequent increase to their re-opening after the holidays. In this connexion Sir Shirley Murphy quotes the opinion of the borough medical officer of health.

"From the point of view of preventive medicine," says Dr. J. K. Warry, "I think that this outbreak affords an illustration where the medical inspection of scholars prior to the resumption of school work would have been of immense value in preventing the spread of infectious disease and that if it had been possible to examine all the children of the infants' department at the opening of the schools the outbreak would not have assumed serious proportions." In private schools it is the well-known practice to demand a certificate of freedom from infection or of recent contact with infection as a condition of readmission to school after the holidays; and although it may be impracticable to insist on the same precaution in the case of all the schools under the London County Council's jurisdiction Dr. Warry believes that if children in the infants' department, at any rate, were medically examined after the summer holidays before resumption of school attendance the result would be a diminished prevalence of infectious disease.

The prevalence of scarlet fever among children in attendance at school is commented on in several of the reports of the borough medical officers of health, and closing of class-rooms in school departments is recorded in Shoreditch, Bermondsey, Deptford, Battersea, Wandsworth, Lewisham, and Woolwich. The distribution of cases in invaded houses is shown in the reports relating to Westminster and Paddington. Thus, in Westminster, where 418 cases were notified, two cases occurred in one house in 25 instances; three cases in one house in 10 instances; and four cases in one house in one instance. In Paddington, where 579 cases were notified, two cases occurred in one house in 63 instances; three cases in one house in 21 instances; four cases in one house in seven instances; five cases in one house in two instances; six cases in one house in two instances; and seven cases in one house in one instance. The medical officer of health of Lewisham urges that steps should be taken to insure that children who have been exposed to infection should not return to school after the holidays, and he suggests that parents of children returning to school should be required to make a declaration on a prescribed form that the children have not been so exposed within a certain period. There seems to be a consensus of opinion among medical officers of health that stringent measures should be taken to prevent diffusion of infection by means of school attendance; but, even assuming that this can be accomplished, we know that in existing conditions there remains the danger of infection by means of clothing which amongst the poor is seldom disinfected after use by infected children but is carefully stowed away or is used for other children as they grow big enough to wear it. Highly complex is the relation of school attendance to the spread of infectious disease; the problem is one that will tax the ingenuity of the county councils in the metropolis and elsewhere, and as a preliminary we might suggest that it would be instructive to inquire how these matters are dealt with in France, Germany, and other countries, where elementary education is known to have received adequate attention for many years past.

In the metropolitan area diphtheria (including membranous croup) appears to have shown greater prevalence in 1907 than in any of the four years immediately preceding, and the mortality among the reported cases has steadily increased during the last three years. In the decennium 1897–1906 the London death-rate from diphtheria has been higher than in any other of the great English towns except Leeds, Sheffield, West Ham, Salford, and Leicester; and in the same period has exceeded the rate of any of the chief foreign cities except Stockholm, St. Petersburg, and New York.

As in other recent years, the report is fully illustrated with tables and charts showing the incidence of the disease and its fatality with respect to the age and sex of the victims and to their places of residence. In the year 1907 the incidence of attack was, as in preceding years, greater in females than in males, while the incidence of mortality and of case fatality was greater among males. With regard to age, the greatest incidence of attack in both sexes was in the fourth year of life; the greatest incidence of mortality was upon males of one year and upon females of two years of age. The case fatality was highest among male children under one, and among female children at one year of age. The proportion of cases of diphtheria removed to the hospitals of the Metropolitan Asylums Board was about 65 per cent., being about the same as it had been in each of the previous seven years. As in the case of scarlet fever, so in the present case the report contains interesting particulars concerning the influence of school attendance on the spread of infection amongst the scholars. Evidence of spread of disease by this means has been derived from the medical officers of health of not fewer than ten of the metropolitan boroughs. In some instances class-rooms or school departments have been closed on account of the prevalence of diphtheria and in other instances particular children have been excluded from school.

In July, 1906, the education committee was empowered to refuse, during the presence of diphtheria in a district, readmission to school children excluded on account of diphtheria or of sore throat, until such children had obtained a medical certificate of freedom from infection, based on "bacteriological examination." The power of controlling the spread of this disease by excluding particular scholars is referred to in several local health reports. The medical officer of health of Greenwich gives an account of his action in such circumstances. Speaking of a certain school in his district which appeared to be a centre of infection he caused to be examined the throats of 47 children actually attending school, with the result that eight of them gave a positive result. All these children were excluded from school and the parents were warned not to return them unless accompanied by a medical certificate of freedom from infection. The result of this treatment was that from this time the spread of infection in this school ceased. The medical officer of Fulham also writes to practically the same effect. There was in 1907 a special incidence on children attending three of his schools, and the notifications were swollen by the "carrier cases." In all these cases similar tactics were adopted, the details of which are recorded in the report, and the result was the same—namely, the cessation of spread of infection.

MEDICINE AND THE LAW.

Is a Dispensary Medical Officer a Workman?

THE case of *Murphy* v. *Enniscorthy Board of Guardians* (42 Ir. L. T. 246) was an appeal from an order of the county court judge of Wexford whereby he awarded the sum of £300 to be paid by the respondents, the Enniscorthy board of guardians, to the dependents of the late Mr. Denis P. Murphy, who had been one of the dispensary medical officers in the Enniscorthy union at a salary of £120 a year. It appeared from the notes of the county court judge that on Oct. 15th, 1907, whilst driving to attend an urgent case, admittedly in discharge of his duty as such medical officer, the applicant's late husband was thrown from his trap and sustained injuries from which he died two days afterwards. The deceased left his widow, the applicant, and four children surviving, who were totally dependent upon him. It was admitted that the accident arose out of, and in the course of, the employment of the deceased and that the deceased, if otherwise within the definition of "workman," was one whose remuneration did not exceed £250; but it was contended that the deceased was not a person who entered into, or worked under, a contract of service with an employer "by way of manual labour, clerical work, or otherwise" within the meaning of Section 13 of the Workmen's Compensation Act, 1906. The county court judge held that the deceased was a person who worked under a contract of service for an employer; that he was not employed by way of manual labour or clerical work, but that he was employed "otherwise," and he gave a general construction of the word "otherwise." Counsel for the appellants argued that between a board of guardians and a dispensary medical officer there was no contract of service; that the medical man in such a case was the holder of a *quasi*-freehold office. They urged that a dispensary medical officer was not a workman within the meaning of the Workmen's Compensation Act. Dispensary medical officers were appointed under the Medical Charities Act (14 & 15 Vict., c. 68), s. 8, and it was lawful for the Commissioners (now the Local Government Board) to remove any such medical officer on sufficient grounds and to direct the guardians to appoint another in his stead. Under Section 9 of the same Act the guardians and other persons were entitled to give tickets to persons requiring medical relief and advice. As to the salaries of these officers, they were not all paid out of the rates. It was provided that there should be paid to each county council on behalf of the guardians of every union one half of the salaries of the medical officers, and this payment was to be made out of the local taxation account which consisted of money paid out of the Consolidated Fund (Local Government (Ireland) Act, 1898, s. 58). Counsel also urged that the Workmen's Compensation Act was applicable to "workmen" only in the popular and general sense of the term. Counsel for the widow and children of the deceased submitted that having regard to the purport of the statute "contract of service" should be construed in a liberal and not in a narrow spirit. Section 13 of the Act of 1906 provided that the "exercise and performance of the powers of a local or other public authority shall, for the purposes of this Act, be treated as the trade or business of the authority." The business of a board of guardians was to look after the poor and it was the intention of the Legislature to bring their officers within the benefit of the Act in cases of this kind. The Lord Chancellor of Ireland, in delivering the judgment of the Court of Appeal, said: "Looking at the terms of section we find that 'workman' means 'any person who has entered into or works under a contract of service or apprenticeship with an employer by way of manual labour, clerical or otherwise.' And we hold that there is in this case no contract of service with an employer within the meaning of the terms of s. 13."

A Midwife's Certificate.

Summonses were heard before Mr. Francis at Westminster police court on Dec. 3rd last against a medical man and a midwife for alleged offences in respect of the registration of the latter. The midwife was charged with unlawfully and fraudulently procuring a certificate of admission to the Midwives Roll, and the medical man was charged with knowingly aiding in the commission of the offence. The medical man practised in the same city as the midwife and was a man of standing in his profession, of good position and high respectability in Bradford. In March, 1904, the female defendant applied to the Central Board at Westminster to be certified as a midwife under the Act, on the ground that she had been in *bonâ-fide* practice since 1885, and "was trustworthy, sober, and of good moral character." The medical man supported her application with a certificate to the effect that he had known the defendant since 1889 and that to his personal knowledge she possessed all the qualifications before mentioned. The female defendant was certified and continued so until March, 1908, when a report was made to the Central Board that the woman had been guilty of negligence and misconduct in the exercise of her vocation. Inquiries were then instituted and it was found that in July, 1892, the woman was tried at the Leeds assizes for murder. The indictment alleged the death of a woman arising out of an illegal operation. She was convicted of manslaughter and sentenced to three years' penal servitude. In 1898 she was again tried on a charge arising out of another illegal operation.

On that occasion she was acquitted. The prosecution contended that it was difficult to see how the medical man who certified to personal knowledge since 1889 could be ignorant of facts that were notorious in the district. The chief inspector of the Bradford police deposed that when he served a copy of the summons on the medical man he said, "I did not know much about the woman. She was introduced to me by one of my assistants who is now dead." At the conclusion of the case for the prosecution the magistrate remarked that the medical man's admittedly high reputation made it almost impossible to believe that he knowingly gave a false certificate. It was only necessary to give 12 months' good character, but his reference covered a period of 15 years. Mr. Francis said: "In my opinion the Director of Public Prosecutions was amply justified in the course he has taken in calling on this doctor to give an account and explanation of his act. It is very important that the medical profession should understand that certificates of character of persons who practise as midwives are not mere matters of form. That he acted carelessly and is responsible himself for being in this position is an unquestionable fact, but after the explanation I think the case against him should be dismissed.',

Lead Poisoning and Employers' Liability.

A curious case of compensation for lead poisoning was decided on Jan. 11th at Bury by Judge Bradbury. The complainant was a painter and the defendants were five firms for which he had worked. The judge said that in cases where the disease was contracted by a gradual process the applicant should sue the last employer who had his remedy against other employers by whom the man had been employed in the preceding 12 months doing the same class of work in which he was liable to blood poisoning and the compensation should be distributed among them. The complainant admittedly suffered from lead poisoning and had worked for five employers in 12 months, and his earnings were 29*s.* weekly. His honour said that the provisions of the section of the Act under which the case was taken were complicated. "From the evidence it seemed fair to assume the man would absorb equal quantities of lead into his system day by day during his employment." He awarded 14*s.* 9*d.* per week compensation during incapacity, divided the amount into twenty sixths, and ordered the firms to pay their proportion according to the number of weeks during which they employed the man. A very pretty lesson in arithmetic.

The Notification of Births in London.

At a recent meeting of the public health committee of the Fulham borough council the medical officer of health of the borough was asked whether the medical men of neighbouring boroughs had had brought to their attention the adoption of the Notification of Births Act, 1907, by the Fulham borough council. The answer was that those had been notified who were known to practise in the borough. It is not difficult to foresee that in the metropolis medical men are likely to transgress the new law not infrequently through ignorance of its adoption in a district in which they do not reside and perhaps do not frequently exercise their profession. Medical practice in London is not by any means of a local character and many practitioners in London and elsewhere attend confinements at a considerable distance from their homes. It is not difficult to drive from one London borough into another without the fact being obtruded upon a mind occupied with other matters, but the possibility of doing so will have to be remembered. The Act orders local authorities to bring their adoption of it to the attention of all medical practitioners and midwives practising within their area, but presumably their not having done so in the case of a medical man summoned for failing to give the prescribed notice will not excuse his ignorance of the law prevailing where he was present at the confinement. At any rate, it will hardly protect him against having to attend the police court.

The Sanitary Inspection of Houses.

At the same meeting of the public health committee of the Fulham borough council Lieutenant-Colonel Praeger asked whether the committee had any system of inspecting houses or flats which had been for a long time empty in order to ascertain whether they were in a sanitary condition before they were occupied. The answer was in the negative and although no doubt Lieutenant-Colonel Praeger was rightly anxious that families moving into new quarters should be protected against conditions which frequently exist and are a source of considerable danger, it is not easy to see where the duties of a medical officer of health would cease if such inspection as that suggested were insisted upon. It would only be practicable if the inspection of all premises by the local sanitary authority at the commencement of a new tenancy were rendered compulsory, as there would be no good reason for distinguishing between houses or flats recently vacated by possibly careless tenants and those which had remained unlet for a long time, a period not easy to define. It may also be suggested that houses long lived in may become dangerously insanitary without any change of occupants taking place. It cannot be denied that the compulsory inspection of the sanitation of all dwellings at stated periods might be advantageous in the interest of the public health, but clearly the expense would be great and would most fairly be borne by the parties interested—that is to say, by the landlord or tenant or both, and that on that account, as well as owing to the prejudice of the citizen against supervision in his private affairs, the innovation of which Lieutenant-Colonel Praeger's question contains the germ would not be received with universal approval. Nevertheless it is a suggestion and the advance made in sanitary legislation during the past half century makes it difficult to say that its future fulfilment is impossible.

Cerebral Hæmorrhage Caused by Exertion.

An interesting point under the Workmen's Compensation Act, 1906, came before the Court of Session in M'Innes *v.* Jackson (1908, S.C. 1021). A workman, while engaged in the course of his employment in moving a weight, had an attack of cerebral hæmorrhage as the result of the exertion that he was using. The work was being performed in the ordinary manner. He was put to bed and four days later a second attack supervened which caused permanent paralysis. At the time of the first attack his arteries were in a degenerate condition which rendered such an attack more likely to occur. The sheriff-substitute at Glasgow found that the workman thus received personal injury by accident in the sense of the Workmen's Compensation Act. The question of law for the opinion of the court was: "Did the respondent sustain injury by accident arising out of and in the course of his employment within the meaning of the Workmen's Compensation Act, 1906?" It was argued for the employers that the injury in respect of which compensation was sought was not caused by an accident within the meaning of the Workmen's Compensation Act, 1906. In the ordinary sense of the term an accident connoted a fortuitous and untoward event, such as an act of over-exertion causing strain, or the alighting of a bacillus in a man's eye causing anthrax. It did not include a disease contracted by a workman in the course of his employment except in the case of "industrial diseases," which were expressly provided for in the Act. In the present case the cause of the injury was a disease and not an accident. The workman's arteries were in such a condition that an attack of cerebral hæmorrhage was bound to occur at some time. It happened to occur at a time when he was working, but there was no fortuitous element in the event, for, as the sheriff found, the "ordinary and usual course of working" was being followed and no injury would have resulted to a man in good health. If the claimant's contention were upheld it would obliterate the distinction between injury caused by accident and injury caused by disease. The Court of Session held that the workman's final disablement had been caused by accident arising out of, and in the course of, his employment within the meaning of the Workmen's Compensation Act, 1906. Lord M'Laren said: It is true that the general question in this case is not precisely the same as that which was put in the case of Stewart *v.* Wilsons and Clyde Coal Co. (5 F. 120), or in either of the two English decisions in the House of Lords; but if I am asked if it differs in principle I am unable to say that it does. If we look for guidance to the case of Stewart, that was a case of injury to the muscles of the back caused by over-exertion in the course of the man's employment; there was nothing external or visible in the injury. Nevertheless, it was an injury which prevented the workman from following his employment and which, in fact, disabled him from any other employment for some time, and the decision of the Court was that an injury of that kind, which is not visible and external, may nevertheless be an injury caused by accident within the meaning of the statute. That

seems a very simple case, and Lord Robertson said in Brintons, Lim., *v.* Turvey (1905, A.C. 230) that he thought that a case of rupture was also a very simple case of accident in the sense of the statute. The present case is not the case of an industrial disease. It is the giving way of an artery causing effusion of blood on the brain, and I am unable to see any distinction between this kind of physiological injury resulting in disablement and the kind of injury we had to consider in the cases of Stewart. The real difficulty in the case is not to connect the attack of partial paralysis which the claimant sustained in immediate sequence to heavy exertion with that exertion; it is rather whether we are to connect that with the subsequent and more serious paralysis which occurred four days later and which seems to have resulted in permanent disablement. It is said that the sheriff has refused to make a finding that the second attack was consequent upon the first. That may have been because it was one of the matters which he desired to leave to the decision of the court. At all events, before we can affirm the sheriff's decision I think it will be necessary that we should hold that these two attacks were connected. The first attack was a slight one, and the man was in course of recovering from it when the second attack supervened. But unless we had evidence which would enable us to assign a different origin to the second attack, I think the logical deduction from the evidence is that the man's improvement was only a partial recovery from the first attack, which was caused by the arteries of the brain being in a strained condition in consequence of over-exertion, and that this second attack was a further development of the injury he suffered from the over-exertion.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 22nd, 1831.

REMITTENT FEVER—TRIAL OF SALICINE.

Of the two other cases admitted, one appeared to be remittent fever. It was very difficult to get an account of the man. I could not learn that he had been in an aguish district, but only that he had been ill seven days. He, however, resided in Thames Street, and had been some way along the banks of the river, though hardly into the country. He was seized on the Thursday before with violent shiverings, violent heat, and afterwards sweating, and he had also pain of the head. When I saw him he was shivering; his account, however, was imperfect as to the period of the day at which the attacks came on, but it appeared that he was affected with rigours at different parts of the day. Under these circumstances, I considered the disease to be remittent fever. Remittent fever will frequently occur insidiously, and unless you are quite up to it, you may as easily pass it over as some forms of epilepsy. I have had many cases of remittent fever which, in addition to the symptoms of continued fever, were merely characterised by excessive sweating; and other cases, in addition to the symptoms of continued fever, characterised by shivering at different times of the day. But there are other cases, again, in which the disease is perfectly clear from the train of shivering, heat, and sweating, taking place violently at certain periods in the twenty-four hours, or at certain more distant periods, besides the continued fever. In other cases there is no shivering nor sweating at intervals, but occasional, and, perhaps, periodical exacerbations of the heat, quickness of pulse, &c. That these diseases have been remittent fever has appeared from the rapid way in which they have yielded to the free exhibition of bark, after the failure of the ordinary remedies of continued fever. In the case of this man the remittent fever was becoming continued fever; his tongue was brown; he was constantly more or less delirious; his mind wandered, and was more or less in stupor; he was very deaf, and it was necessary to combine the treatment demanded by the two species of fever. It was requisite to apply blisters at the back of the neck, and to give him mercury. He took five grains of hydrarg. cum creta, and he also took the new French remedy, *salicine*. A remedy has been discovered by the French, procured from the willow, which is said to be as effectual in the cure of ague as quinine. This man took the remedy in the same doses; that is to say, he took five grains every six hours, and he is now doing remarkably well. I have, in fact, in typhus fever, given the sulphate of quinine with considerable benefit, several grains every few hours. The debility of this man would have induced me to give him this remedy, even had he not had the remittent form of the disease. When I found him shivering in bed, and ascertained that he had lived at the water-side, and had been near the tower-moat, which, for some time past, was a disgraceful focus of malaria and ague, I had no hesitation in giving him a remedy of this description. I am anxious to ascertain the powers of salicine, because, when they are once established, so that there will be a demand for it, it will be sold at a cheaper rate than the sulphate of quinine, although, compared with the original price of three guineas per ounce, that is *now* exceeding cheap. This is what I am told, although, of course, I am not very conversant with these matters. This man took the same dose as is given of sulphate of quinine in severe cases, and it appeared to have the same effect as quinine; that is, it neither sickened him nor heated him; it was as innocuous as the sulphate of quinine *usually* is; he still takes it, and is mending rapidly.[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8495 births and 5237 deaths were registered during the week ending Jan. 16th. The annual rate of mortality in these towns, which had been equal to 18·2 and 17·5 per 1000 in the two preceding weeks, further declined to 16·6 in the week under notice. During the 14 weeks of last quarter the annual death-rate in these towns averaged only 14·9 per 1000, and in London the mean rate during the same period did not exceed 14·3. The lowest recorded annual death-rates in these towns during last week were 4·9 in Hornsey, 8·5 in Coventry, 8·9 in King's Norton, and 9·9 in Walthamstow; the rates in the other towns ranged upwards, however, to 24·6 in Merthyr Tydfil, 24·7 in Oldham, 26·2 in Sunderland, and 27·3 in Bury. In London the recorded death-rate during the week was equal to 16·9 per 1000. The 5237 deaths from all causes in the 76 towns showed a further decline of 298 from the higher numbers returned in the two preceding weeks, and included 491 which were referred to the principal epidemic diseases, against 497 and 450 in the two previous weeks; of these 491 deaths, 221 resulted from measles, 72 from diphtheria, 56 from diarrhœa, 54 from whooping-cough, 50 from scarlet fever, and 38 from "fever" (principally enteric), but not one from small-pox. The deaths referred to these epidemic diseases in the week under notice were equal to an annual rate of 1·6 per 1000, against 1·3, 1·6, and 1·4 in the three preceding weeks; in London the recorded rate from these diseases was equal to 1·5 per 1000. No death from any of these epidemic diseases was registered during last week in Cardiff, Gateshead, Southampton, Hornsey, or in nine other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·0 in Manchester, 3·3 in Merthyr Tydfil, 3·6 in Sunderland, and 4·8 in Rotherham. The fatal cases of measles in the 76 towns, which had been 168, 231, and 229 in the three preceding weeks, declined again to 221 in the week under notice, but caused annual death-rates equal to 2·2 in Warrington, 2·6 in Leicester and in Sunderland, and 4·0 in Rotherham. The deaths from diphtheria, which had been 82 and 62 in the two previous weeks, rose again last week to 72, of which 24 occurred in London and its suburban districts, three in Bristol, four in Birmingham and its surrounding districts, three in Liverpool, seven in Manchester and Salford, five in Leeds, and three in Hull. The 56 deaths attributed to diarrhœa showed a slight increase. The 50 fatal cases of scarlet fever exceeded the number in any recent week, including 18 in London and its suburban districts, seven in Liverpool, and

[1] Excerpt from a Clinical Lecture delivered at St. Thomas's Hospital, London, by Dr. Hilliotson, Jan. 3rd, 1831.

nine in Manchester and Salford. The 54 deaths from whooping-cough also exceeded recent weekly numbers and showed the highest rate of mortality, 1·5 per 1000, in West Bromwich. Of the 38 deaths referred to "fever," nine occurred in Manchester and Salford and three in Oldham. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3557 and 3347 on the two preceding Saturdays, had further declined to 3261 at the end of the week under notice; the new cases of this disease admitted to these hospitals during the week under notice were 358, against 379 and 323 in the two preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 422 in the previous week, declined to 379 in the week under notice, and were 63 below the corrected average number in the corresponding week of the five years 1904–08. The causes of 46, or 0·9 per cent., of the deaths registered in the 76 towns during the week were not certified, either by a registered medical practitioner or by a coroner. All the causes of deaths registered during the week under notice were again duly certified in Leeds, West Ham, Bradford, Newcastle-on-Tyne, Salford, Nottingham, and in 46 other smaller towns; the 46 uncertified causes of death in the 76 towns last week included 11 in Liverpool, three each in Birmingham, St. Helen's, and Gateshead, and two each in Northampton, Preston, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·1, 17·4, and 19·5 per 1000 in the three preceding weeks, declined to 18·1 in the week ending Jan. 16th. During the 14 weeks of last quarter the annual death-rate in these eight towns averaged 15·5 per 1000, and exceeded by 0·6 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 12·2 and 15·2 in Leith and Greenock to 25·9 in Dundee and 26·4 in Perth. The 648 deaths from all causes registered in the eight towns last week showed a decline of 50 from the number returned in the previous week, and included 73 which were referred to the principal epidemic diseases, against 51, 60, and 70 in the three preceding weeks; of these 73 deaths, 39 resulted from whooping-cough, 13 from diarrhœa, seven from diphtheria, six from "fever," five from scarlet fever, and three from measles, but not one from small-pox. These 73 deaths were equal to an annual rate of 2·0 per 1000, exceeding by 0·4 the mean rate during the week from the same diseases in the 76 largest English towns. The 39 fatal cases of whooping-cough in the eight Scotch towns showed a further increase upon recent weekly numbers, and included 27 in Glasgow, four in Aberdeen, three in Paisley, and two each in Dundee and Greenock. The 13 deaths attributed to diarrhœa showed, however, a further decline from those returned in recent weeks; six occurred in Glasgow and three both in Edinburgh and Dundee. Six of the seven deaths from diphtheria (corresponding with the number in the previous week) were returned in Glasgow. The six deaths referred to "fever," of which four were certified as enteric and two as cerebro-spinal meningitis, included three in Glasgow. Scarlet fever caused two deaths both in Glasgow and in Aberdeen; and the three fatal cases of measles were also returned in Aberdeen, where the annual death-rate from the principal epidemic diseases during the week was equal to 3·2 per 1000. The deaths referred to diseases of the respiratory organs in the eight towns, which had increased in the four preceding weeks from 101 to 129, further rose to 151 in the week under notice, but were 48 below the number returned in these towns in the corresponding week of last year. The causes of 16, or 2·5 per cent., of the deaths registered during the week in the eight towns were not certified; in the 76 large English towns during the same week the proportion of uncertified causes of death did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 17·2, 28·3, and 23·6 in the three preceding weeks, was 23·7 in the week ending Jan. 16th. During the 14 weeks of last quarter the death-rate in the city averaged 20·5 per 1000, whereas the mean rate during the same period did not exceed 14·3 in London and 14·4 in Edinburgh. The 181 deaths of Dublin residents during the week under notice were within one of the number returned in the previous week, and included 15 which were referred to the principal epidemic diseases, against 12 and 16 in the two preceding weeks. These 15 deaths were equal to an annual rate of 2·0 per 1000; the rate from these epidemic diseases in the same week did not exceed 1·5 in London and 0·9 in Edinburgh. Of the 15 deaths from these epidemic diseases in Dublin last week eight resulted from measles, three from "fever," two from whooping-cough, and one each from diphtheria and diarrhœa, but not one either from scarlet fever or small-pox. The fatal cases both of measles and of "fever" showed a slight decline from the numbers returned in the previous week. The 181 deaths from all causes during the week included 29 of infants under one year of age and 49 of persons aged upwards of 60 years. Two inquest cases and one death from violence were registered during the week; and 54, or 30·0 per cent., of the deaths occurred in public institutions. The causes of six, or 3·3 per cent., of the deaths registered in Dublin last week were not certified; the proportion of uncertified causes of death in London last week did not exceed 0·1 per cent., and in Edinburgh it was 1·9 per cent.

ADMINISTRATIVE COUNTY OF DURHAM.

Dr. T. Eustace Hill, the county medical officer of health of Durham, sends us the following:—

Chief Vital Statistics for 1908 and their Comparison with 1907 and the Average of the Ten Years 1898–1907.

Estimated population, 1908 843,770
" " 1907 832,900

—	Annual rates per 1000 population.		Mean rate for ten years 1898–1907.
	1908.	1907.	
Birth-rate	37·0	34·8	35·3
Death-rate	17·5	17·0	18·0
Zymotic death-rate	2·70	1·98	2·23
Infant mortality rate (per 1000 births)	151	136	162
Small-pox	Nil.	Nil.	0·008
Scarlet fever	0·07	0·06	0·16
Diphtheria and membranous croup ...	0·18	0·20	0·19
"Fever" (enteric and continued) ...	0·18	0·10	0·19
Measles	0·27	0·69	0·41
Whooping-cough	0·53	0·32	0·34
Diarrhœa	1·44	0·59	0·90
Phthisis	0·95	0·97	1·11
Other tuberculous diseases	0·70	0·80	0·86
Acute respiratory diseases	2·81	3·09	3·06

VITAL STATISTICS OF LONDON DURING DECEMBER, 1908.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7·6 per 1000 of the population, estimated at 4,795,757 persons in the middle of last year; in each of the two preceding months the rate was 9·2 per 1000. The lowest rates last month were recorded in Paddington, Westminster, St. Marylebone, Hampstead, Holborn, and the City of London; and the highest rates in Shoreditch, Bethnal Green, Poplar, Greenwich, Lewisham, and Woolwich. Scarlet fever was much less prevalent than in other recent months; among the several metropolitan boroughs the greatest proportional prevalence of this disease was recorded last month in Hackney, Poplar, Bermondsey, Battersea,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1908.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1908.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,795,757**	**1**	**1987**	**844**	**—**	**192**	**1**	**20**	**460**	**3**	**3508**	**7·6**	**—**	**267**	**52**	**90**	**29**	**—**	**39**	**—**	**89**	**566**	**1·2**	**6591**	**14·3**	**117**
West Districts.																										
Paddington	150,923	—	53	9	—	5	—	2	10	—	79	5·5	—	1	—	—	1	—	1	—	—	3	0·2	171	11·8	106
Kensington	182,752	—	56	26	—	6	—	—	16	—	104	5·9	—	1	1	5	—	—	2	—	4	13	0·7	226	12·9	147
Hammersmith	124,012	—	40	32	—	2	—	—	12	—	86	7·2	—	1	1	6	—	—	—	—	5	13	1·1	185	15·6	186
Fulham	171,562	—	37	53	—	4	—	—	18	1	113	6·9	—	4	1	4	—	—	—	—	7	16	1·0	208	12·6	113
Chelsea	75,049	—	25	17	—	3	—	—	6	—	51	7·1	—	—	1	3	2	—	1	—	—	7	1·0	102	14·2	98
City of Westminster	170,545	—	59	21	—	4	—	1	3	—	88	5·4	—	10	1	1	—	—	—	—	3	15	0·9	255	15·6	141
North Districts.																										
St. Marylebone	126,867	—	26	16	—	3	—	1	12	—	58	4·8	—	11	1	1	—	—	2	—	3	18	1·5	198	16·3	77
Hampstead	92,654	—	25	1	—	6	—	2	4	—	38	4·3	—	1	—	—	1	—	1	—	1	4	0·5	88	9·9	79
St. Pancras	237,075	1	83	27	—	9	—	—	16	—	136	6·0	—	6	2	2	1	—	2	—	—	13	0·6	352	15·5	120
Islington	349,091	—	151	55	—	9	—	3	34	1	253	7·6	—	31	2	5	2	—	—	—	9	49	1·5	499	14·9	135
Stoke Newington	54,015	—	23	5	—	1	—	—	4	—	33	6·4	—	—	2	—	—	—	2	—	—	4	0·8	66	12·7	91
Hackney	235,253	—	126	33	—	6	—	—	25	—	190	8·4	—	7	6	4	2	—	2	—	4	25	1·1	293	13·0	89
Central Districts.																										
Holborn	54,466	—	14	2	—	4	—	—	1	—	21	4·0	—	1	1	—	—	—	1	—	1	4	0·8	100	19·1	105
Finsbury	96,007	—	40	10	—	9	—	—	7	—	66	7·2	—	6	—	—	1	—	2	—	4	13	1·4	167	18·1	132
City of London	19,252	—	3	3	—	1	—	—	1	—	8	4·3	—	—	—	—	—	—	—	—	—	—	—	30	16·3	129
East Districts.																										
Shoreditch	115,227	—	48	21	—	25	—	—	16	—	110	10·0	—	1	2	4	4	—	4	—	1	16	1·4	190	17·2	129
Bethnal Green	131,066	—	62	29	—	11	—	—	26	—	128	10·2	—	27	2	4	2	—	1	—	—	36	2·9	233	18·5	152
Stepney	310,706	—	148	55	—	14	1	2	36	—	256	8·6	—	62	6	10	1	—	3	—	10	92	3·1	543	18·2	147
Poplar	171,516	—	119	22	—	14	—	1	25	—	181	11·0	—	9	6	3	2	—	3	—	3	26	1·6	263	16·0	134
South Districts.																										
Southwark	210,442	—	75	24	—	6	—	2	22	—	129	6·4	—	18	3	1	—	—	1	—	8	31	1·5	329	16·3	138
Bermondsey	127,910	—	74	15	—	11	—	—	21	—	121	9·9	—	23	3	2	2	—	2	—	2	34	2·8	222	18·1	136
Lambeth	321,344	—	130	43	—	8	—	1	31	—	213	6·9	—	9	3	4	1	—	1	—	3	21	0·7	399	12·9	88
Battersea	183,873	—	92	37	—	5	—	1	17	1	153	8·7	—	4	3	5	4	—	1	—	2	19	1·1	214	12·1	95
Wandsworth	289,506	—	124	57	—	5	—	—	18	—	204	7·3	—	10	1	5	2	—	2	—	4	24	0·9	342	12·3	100
Camberwell	280,022	—	100	46	—	4	—	2	29	—	181	6·7	—	7	1	9	—	—	—	—	7	24	0·9	356	13·3	88
Deptford	117,539	—	53	35	—	2	—	—	20	—	110	9·8	—	3	—	2	—	—	1	—	1	7	0·6	139	12·3	126
Greenwich	109,110	—	59	23	—	9	—	—	15	—	106	10·1	—	4	—	2	1	—	3	—	1	11	1·1	118	11·3	108
Lewisham	156,627	—	72	74	—	1	—	2	8	—	157	10·5	—	5	2	5	—	—	1	—	4	17	1·1	154	10·3	73
Woolwich	131,346	—	70	53	—	4	—	—	8	—	135	10·7	—	5	1	3	—	—	—	—	2	11	0·9	149	11·8	96
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

Greenwich, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month was 3498, against 3431, 3776, and 3787 at the end of the three preceding months; the weekly admissions averaged 371, against 506, 493, and 477 in the three preceding months. The prevalence of diphtheria showed a slight decline from that recorded in the two preceding months; this disease was proportionally most prevalent in Hammersmith, Fulham, Chelsea, Bethnal Green, Deptford, Greenwich, Lewisham, and Woolwich. There were 1241 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 953, 1118, and 1228 at the end of the three preceding months; the weekly admissions averaged 143, against 158 in each of the two preceding months. Enteric fever also was less prevalent in December than in either of the two preceding months; the greatest proportional prevalence of this disease last month was recorded in Hampstead, Holborn, Finsbury, Shoreditch, Bethnal Green, Poplar, Bermondsey, and Greenwich. The Metropolitan Asylums Hospitals contained 147 enteric fever patients at the end of last month, against 95, 145, and 184 at the end of the three preceding months; the weekly admissions averaged 16, against 18, 24, and 29 in the three preceding months. The 20 cases of puerperal fever notified during the month included three which belonged to Islington, and two each to Paddington, Hampstead, Stepney, Southwark, Camberwell, and Lewisham. Of the three cases notified as cerebro-spinal meningitis one belonged to Fulham, one to Islington, and one to Battersea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the five weeks ending Jan. 2nd the deaths of 6591 persons belonging to London were registered, equal to an annual rate of 14·3 per 1000; in the three preceding months the rates had been 12·8, 12·3, and 14·6 per 1000. Among the several boroughs the death-rates last month ranged from 9·9 in Hampstead, 10·3 in Lewisham, 11·3 in Greenwich, 11·8 in Paddington and in Woolwich, 12·1 in Battersea, and 12·3 in Wandsworth and Deptford, to 17·2 in Shoreditch, 18·1 in Finsbury and in Bermondsey, 18·2 in Stepney, 18·5 in Bethnal Green, and 19·1 in Holborn. The 6591 deaths from all causes included 566 which were referred to the principal infectious diseases; of these, 267 resulted from measles, 52 from scarlet fever, 90 from diphtheria, 29 from whooping-cough, 39 from enteric fever, and 89 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia. No death from any of these diseases was recorded last month in the City of London; while among the metropolitan boroughs they caused the lowest death-rates in Paddington, Kensington, Hampstead, St. Pancras, Stoke Newington, Holborn, Lambeth, and Deptford; and the highest rates in St. Marylebone, Bethnal Green, Stepney, Islington, Poplar, Southwark, and Bermondsey. The 267 fatal cases of measles were 76 in excess of the corrected average number for the corresponding period of the five preceding years; the greatest proportional mortality from this disease last month was recorded in St. Marylebone, Islington, Finsbury, Bethnal Green, Stepney, Southwark, and Bermondsey. The 52 deaths from scarlet fever were slightly fewer than the corrected average number; this disease was proportionally most fatal in Hackney, Shoreditch, Stepney, Poplar, and Bermondsey. The 90 fatal cases of diphtheria were equal to the average; among the various metropolitan boroughs the highest death-rates from this disease were recorded in Hammersmith, Chelsea, Shoreditch, Bethnal Green, Stepney, Camberwell, and Lewisham. The 29 deaths from whooping-cough were equal to less than one-fourth of the corrected average number for the corresponding period of the five preceding years; the greatest proportional mortality from this disease last month was recorded in Chelsea, Shoreditch, Bethnal Green, Bermondsey, and Battersea. The 39 fatal cases of enteric fever slightly exceeded the corrected average number; this disease was proportionally most fatal in St. Marylebone, Stoke Newington, Finsbury, Shoreditch, Poplar, Bermondsey, and Greenwich. The 89 deaths from diarrhœa also showed a slight excess over the corrected average; the greatest proportional mortality from this cause was recorded in Hammersmith, Fulham, St. Marylebone, Islington, Finsbury, Stepney, Southwark, Camberwell, and Lewisham. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was 2·3 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 117 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Stoke Newington, Hackney, Lambeth, Camberwell, and Lewisham; and the highest rates in Kensington, Hammersmith, Westminster, Bethnal Green, Stepney, and Southwark.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon: E. C. Lomas, D.S.O., to the *President*, additional, for three months' course at West London Hospital. Staff-Surgeon: W. K. Hopkins, to the *Royal Arthur*, lent, for voyage.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel R. Jennings has been noted for the appointment of Administrative Medical Officer at Devonport. Colonel H. R. Whitehead, Principal Medical Officer, 1st (Peshawur) Division at Cherat, has been selected for the appointment of Principal Medical Officer, Southern Command. Colonel O. E. P. Lloyd, V.C., from Ranikhet, has been appointed Principal Medical Officer, Peshawur Division. Major R. J. Blackham, D.P.H., has been appointed Divisional Sanitary Officer, 1st (Peshawur) Division, India.

TERRITORIAL FORCE.

Royal Army Medical Corps.

For attachment to Units other than Medical Units:—Surgeon-Lieutenant-Colonel Frederick William Gibbon, from The Tyne Division (Electrical Engineers) Royal Engineers (Volunteers), to be Lieutenant-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Edgar Reid (late Surgeon-Captain, 3rd Glamorgan Volunteer Rifle Corps) to be Captain (dated April 1st, 1908). The undermentioned Surgeon-Lieutenant-Colonels and Honorary Surgeon-Colonels, from the 6th Volunteer Battalion, The Manchester Regiment, to be Lieutenant-Colonels with the honorary rank of Surgeon-Colonels, with precedence as in the Volunteer Force (dated April 1st, 1908): Thomas Fort and Robert Lancelot Sparrow. Lieutenant Henry Arthur Clifton Harris, from the Sussex and Kent Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel William Mitchell Roocroft, from the 5th Battalion, The Manchester Regiment, to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence from August 20th, 1904 (dated April 2nd, 1908). Lieutenant Alfred Harold Godwin, from the 2nd West Lancashire Field Ambulance, to be Lieutenant (dated August 13th, 1908). John Wilfred Bird to be Captain (dated Sept. 14th, 1908). Lieutenant Charles H. Sedgwick to be Captain (dated Sept. 25th, 1908). Surgeon-Captain John Robert Williams, from the 6th Battalion, The Royal Welsh Fusiliers, to be Captain (dated Nov. 18th, 1908). Surgeon-Major Harry Legh de Legh, from the 4th Battalion, Alexandra, Princess of Wales's Own (Yorkshire Regiment), to be Major (dated Nov. 11th, 1908). Captain William R. Willis resigns his commission (dated Dec. 4th, 1908).

1st London Territorial Division: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel James Cantlie, from the Honorary Colonelcy of the Eastern Command, Maidstone Companies, and the London District, London Companies Royal Army Medical Corps (Volunteers), is appointed to the Honorary Colonelcy of the division, with precedence as in the Volunteer Force (dated April 1st, 1908).

The announcements in the *London Gazette* of Nov. 6th, 1908, regarding the transfer of Surgeon-Major Hugh Ranson Bramwell and Surgeon-Captain John Cromie from the Tynemouth Royal Garrison Artillery (Volunteers) are cancelled.

1st East Anglian Field Ambulance: Captain Francis A. Brooks to be Major (dated Nov. 30th, 1908).

2nd Lowland Field Ambulance: Captain Peter F. Shaw to be Major (dated Dec. 13th, 1908).

2nd North Midland Field Ambulance: Captain and Honorary Major Horace Walter Plant (Retired List, Volunteers), to be Transport Officer, with the honorary rank of Major (dated June 28th, 1908).

1st Northumbrian Field Ambulance: Lieutenant Frank Hawthorn to be Captain (dated Dec. 1st, 1908).

2nd Northumbrian Field Ambulance: Quartermaster and Honorary Lieutenant Alfred Johnson to be Transport Officer, with the honorary rank of Lieutenant (dated Dec. 1st, 1908).

1st Welsh Field Ambulance: Surgeon-Major Thomas Lewis Kenrick Davies, from the 6th Battalion. The Royal Welsh Fusiliers, to be Major (dated Nov. 18th, 1908).

The undermentioned officers are appointed to the Territorial Force, on the Unattached List, for service with the contingents of the Senior Division of the Officers Training Corps as stated against their names in the ranks and in the precedence which they severally held as officers in the Volunteer Force (dated July 17th, 1908):—Surgeon-Captain Walter Tyrrell Brooks (1st (Oxford University) Volunteer Battalion, The Oxfordshire and Buckinghamshire Light Infantry), Oxford University, to be Captain; Surgeon-Lieutenant William Duncan Sturrock (1st (Oxford University) Volunteer Battalion, The Oxfordshire and Buckinghamshire Light Infantry), Oxford University, to be Lieutenant.

VOLUNTEER CORPS.

Royal Engineers (Volunteers): The Tyne Division (Electrical Engineers): Surgeon-Major Frederick W. Gibbon to be Surgeon-Lieutenant-Colonel (dated March 31st, 1908).

Rifle: 1st Volunteer Battalion, The Highland Light Infantry: Surgeon-Captain James Swanson resigns his commission (dated March 31st, 1908).

DINNER OF THE MEDICAL OFFICERS OF THE ROYAL NAVY.

On Jan. 8th between 70 and 80 medical officers of the Royal Navy, retired and active lists, dined at the Criterion Restaurant, Piccadilly, and it is hoped that this dinner will become an annual feature. The dinner was convened by Fleet-Surgeon J. Lloyd Thomas, Fleet-Surgeon P. B. Handyside, and Fleet-Surgeon A. R. Bankart, M.V.O.

Correspondence.

"Audi alteram partem."

LORD LISTER ON SULPHO-CHROMIC CATGUT.

To the Editor of THE LANCET.

SIR,—I desire with your permission to add in your columns a few words regarding sulpho-chromic catgut to what was stated in my paper on the Preparation of Catgut for Surgical Purposes published in THE LANCET of Jan. 18th, 1908, p. 148. It does not begin to be absorbed for about ten days, and it is then gradually eroded, retaining considerable firmness to the last. It is thus well adapted not only for tying vessels in wounds but also for the ligature of arterial trunks in their continuity and for buried sutures. Its trustworthiness for these purposes has been amply demonstrated by long experience. I may add that immersion of the catgut in 1 to 20 solution of carbolic acid for about 20 minutes before the commencement of an operation has afforded perfect security of an aseptic state of the thread, while no disadvantage arises from its remaining in that solution for any length of time which on other grounds may be found convenient.

I am, Sir, yours, &c.,

Jan. 14th, 1909. LISTER.

THE ABSORPTION OF PROTEINS.

To the Editor of THE LANCET.

SIR,—Your issue of Jan. 2nd contains an article by Professor W. D. Halliburton on "The Absorption of Proteins," put forth as a rejoinder to remarks upon the subject contained in my lectures recently delivered at the Royal College of Physicians of London. The point dealt with is no less fundamental a one than the manner in which protein food passes within the system from the seat of absorption in the walls of the alimentary canal to that of utilisation in the tissues. Professor Halliburton contends that protein at the seat of absorption becomes broken down into the amino-acids which, by virtue of their small molecular condition, pass through the walls of the vessels into the blood stream and thus become distributed through the system and brought into relation with the tissues by which they are in a direct manner taken for application to utilisation. Under such a proposition the blood, as far as protein food is concerned, is simply a medium for the conveyance of crude products of digestion within reach of the tissues.

No matter what the condition existing with respect to rest and exercise, the tissues are always to be ready to take that which is presented to them from the seat of absorption. It is admitted that the amino-acids are capable of passing into the urine and that they do pass into it if they reach the blood in excess of their removal by the tissues, but the tissues, apart from the consideration of whether they are wanted or not, and apart from the consideration of whether much or little in amount of them is entering the blood, are forced to take them to keep them from showing themselves, as is found under normal circumstances they fail to do, in the urine.

What, under such circumstances, is the object of the presence of the elaborated protein principles found in the blood? If re-synthesis of the products of digestion takes place at the seat of absorption, their presence is intelligible enough, but if the products of digestion are to traverse the circulation as such for direct appropriation by the tissues, the protein constituents of the blood become needless as far as tissue nutrition is concerned, a view standing in antagonism with that generally held.

Undoubtedly, it may be considered, the protein constituents of the blood must have a function of importance to discharge. Professor Halliburton does not seem to regard them as occupying an intermediate position between the food and tissue appropriation. Definitely we know that in the incubating egg the chick is developed from products allied to the protein constituents of the blood and not from products allied to those derived from digestive action. Because animals fed with the amino acids maintain nitrogenous equilibrium and health is no argument in support, as it is alleged by Professor Halliburton to be, of food protein passing as amino-acids to the tissues for their nutrient supply. Any digestion product which can be taken on by the bioplasmic molecules of the lymphocyte will serve the purpose for the occurrence of re-synthetic action at the seat of absorption and, with the amino-acids here synthesised into protein, a condition is supplied which equally well fits in with the maintenance of nitrogenous equilibrium and health in animals fed on them as under the other mode of viewing the question.

Professor Halliburton says: "If the intestinal epithelium"—epithelium stands here in error for lymphocytes—"were the exclusive, or even the principal, seat of protein synthesis, the coagulable protein in the blood ought to be raised after a protein meal. Recent analyses have shown that this is not the case." ..... "The sentence Dr. Pavy quotes from my 'Chemical Physiology' states that chyle contains more protein than does lymph from the limbs. The statement is correct, but the inference I drew from it in my more youthful days is incorrect." Is Professor Halliburton viewing this matter in a right way? I entered at some length into the increased flow that takes place through the thoracic duct as a result of food ingestion, but he is altogether silent upon this point. Surely an increased flow of a protein-containing fluid must count for something in relation to the entry of protein into the blood stream. Let me from this standpoint give consideration to the matter.

Viewing the absorbent system and its contents through the information that has been acquired with regard to them I read the deductions to be drawn in the following way. A system of vessels exists, commencing in lacunæ dispersed between the tissue elements and ending in junctions with veins at the lower part of the neck. From the capillary blood-vessels a transudation into the lacunæ takes place from which the tissues draw their supply. The nature and amount of this transudation are dependent upon the existing collateral conditions related to state of blood and of blood pressure, but under no circumstances, I conceive, can it be assumed that the blood plasma passes bodily into the lacunæ. The impediment offered by membranes to the transudation of protein is well understood, and it is only under the influence of pressure that a passage takes place. According to the amount

of pressure so is the extent of transudation, but at the same time different membranes offer different degrees of impediment. What is wanted is that a sufficiency of protein should pass to meet the demands of the tissues, and this is, as it were, under automatic regulation, inasmuch as that which creates a demand for supply induces an increased blood flow which is attended with increased capillary blood pressure. Thus the protein transudes in proportion as it is wanted but the amount may be assumed, from what is known of the state of the fluid collected during the existence of œdema, where, it is to be noted, the blood pressure in the capillaries is greater than normal, to be always comparatively insignificant in relation to that contained in blood plasma.

Intervening between the inlet to the absorbent system that has been referred to and the outlet into the blood stream there is an extensive set of vessels which are connected with glands in which there is an active production of lymphocytes. These lymphocytes consist of growing bioplasm and they may be considered to feed and grow upon anything which is adapted for being taken on by them. Their growth means production of protein from matter that may be around them, and, as a part of their life history, they subsequently undergo autolysis, a process in which a melting down into disseminated (dissolved) protein may be looked upon as occurring and giving rise to the proteins belonging to the plasma that is poured into the blood stream. Now, if the fluid at the inlet and the outlet of the absorbent system varies in nature, and I contend it does in a very notable manner with respect to protein constituent, we have to look to what goes on within the absorbent system to account for the variation. Thus I consider evidence is presented which justifies the conclusion that the proteins of the blood are replenished by those derived from the absorbent system.

Observation tells us that it is especially at a period of digestion that activity of flow takes place from the absorbent system into the blood, and the chyle vessels of the intestine are seen to stand out loaded with fluid, whilst at other times no sign of their existence is to be perceived. Does not this bring the state observed into relation with food absorption? It accounts for the active flow referred to through the thoracic duct during the digestion period, which is attended with a commensurate passage of protein into the blood. Do not the circumstances suffice to point to the occurrence of protein synthesis from the digestion products at the seat of absorption? The lymphocytes are there for accomplishing the work, and from them the plasma proteins may be derived preparatory to reaching the blood. Professor Halliburton gives an elaborate calculation based upon the number of lymphocytes present in the blood and estimates the work achievable by lymphocytic action in connexion with food, but in his argument he entirely misses the real point to be dealt with, which is not the number of lymphocytes that may happen to be present in the blood but the protein derivable from the food contained in the plasma and lymphocytes of the chyle flowing through the thoracic duct into the blood. In treating the matter in the way he has here and throughout done, I am forced to say, and I do so with deference to the opinions he may hold, that whether from fault on his side or on mine he has failed to properly take in what I have endeavoured to represent.

Under Professor Halliburton's view, that the broken-down food protein passes in the form of amino-acids to the tissues where re-synthesis is assigned to take place, how are the proteins of the blood to become replenished? There is an ever-changing condition belonging to the blood and its proteins must need replenishment from the food. This replenishment is provided for by re-synthesis of the digestion products at the seat of absorption and passage of the newly constructed protein through the thoracic duct into the circulation. In these circumstances the food becomes disposed of in a manner to provide a storage in the blood to meet the wants of the system in the absence of food. Suppose Professor Halliburton's view to be in operation, how is the system to fare when the food-supply ceases? On account of the diffusible nature of the amino-acids the view involves a strictly hand-to-mouth method of procedure, with no provision to meet the demands of the system during fasting periods.

Having said thus much bearing on the general aspect of the question, let me in conclusion refer to a piece of collateral evidence which may be taken as sufficient to show that the issue of protein digestion, whether consisting of peptone or amino-acids, reaches the blood from the seat of absorption in a re-synthesised state. It is known that in phloridzin glycosuria sugar and a nitrogen-containing product are eliminated with the urine through an action taking place in the kidney exerted by the phloridzin upon a constituent of the blood. It is also known that the elimination is influenced by a supply of protein food. It has been shown, particularly by the experiments, amongst others, of Reilly, Nolan, and Lusk, and of Stiles and Lusk, recorded in the *American Journal of Physiology* respectively for 1898 and 1903, that the elimination of sugar and nitrogen-containing product stands in direct relation to the supply of protein food. The conditions are simple. Protein food is ingested and sugar and nitrogen-containing matter are eliminated. The blood is the intervening medium between the seat of absoption and that of elimination. The sugar does not pass in a free state, and the conclusion naturally to be drawn, and is drawn by physiologists, is that the sugar is in combination with nitrogen-containing matter in the blood and that a disjunction occurs in the kidney. To permit of this train of phenomena being carried out, it is requisite that a re-synthesis of the products of protein digestion should occur before the blood is reached, and the lymphocytes at the seat of absorption are fittingly placed for bringing about the result. Thus by experimentation with phloridzin we are not only supplied with evidence showing passage of sugar through the circulation in a combined state but likewise the occurrence of re-synthesis of the digestion products preparatory to reaching the blood. It is possible, as in the case of sugar, when the product of digestion proteolysis may happen to exceed the assimilative capacity of the lymphocytes, that the surplus may be conveyed to the liver and there, in accordance with Professor Halliburton's view, be dealt with in a manner to lead to the dissociation of ammonia followed by its passage into urea, but as to passage of the products of protein digestion through the circulation as a physiological occurrence to feed the tissues, I no more think that such could take place without being revealed by the urine than is found to happen in the case of sugar.

I am, Sir, yours faithfully,

Jan. 18th, 1909. F. W. PAVY.

"TOO LATE" CASES: PERITONEAL AND INTESTINAL TOXÆMIA.

To the Editor of THE LANCET.

SIR,—It is not often that sentiment in a professional man is the primary incentive to write a letter, but I must own its forcible influence in prompting me to send you a few observations upon what I have ventured to call "too late" cases. This is the touching incident which happened to me and which, it will be owned, could hardly fail to appeal to any operating surgeon who might have found himself in a similar situation.

It was my "receiving" day at the hospital, and at 2 P.M. I was telephoned for to see an urgent abdominal case that had just been admitted to my ward. On my arrival I was informed that a second acute abdominal case was on its way to the hospital. Before, however, commenting in any way upon the cases and the lessons which they teach let me briefly narrate the histories of them as obtained by my resident assistant, Dr. C. K. Stevenson, from the respective parents. In doing so I fear I somewhat transcend the usual limits of an epistolary communication, but I venture to hope that you will deem the subject of sufficient interest and importance to warrant me in craving for your indulgence.

CASE 1.—The patient, a boy, aged four years, commenced to ail about 14 days before admission to the institution. At this time he was seized with pain in the abdomen, coupled with vomiting. In the course of a day or two it was noticed that his abdomen began to swell, and this condition had rapidly increased of late. His bowels moved a week ago. It was stated that up to the onset of his illness he had apparently enjoyed good health, although it was elicited that at an earlier period of his life he had suffered from frequent attacks of diarrhœa. On admission to the hospital the child looked extremely ill. He was in a semi-lethargic condition, with a dry tongue, a temperature of 100° F., and a pulse of 133. The abdomen was greatly distended, and every now and again contraction of the parietes took place and there

was seen what appeared to be distended coils of intestine; peristalsis was not, however, visible. At these particular times the child seemed to suffer from pain and would cry out. Shortly after admission he vomited mouthfuls of offensive brownish material, evidently the contents of the small intestine. Owing to the extremely toxic condition of the child a general anæsthetic was not administered. Under the local application of ethyl chloride an incision was made in the right iliac region and a distended coil of small intestine tapped. Fluid fæcal matter forcibly gushed out and was evidently expelled by contractions of the intestine. The stomach was washed out and a quantity of fæcal material thus removed. The child was in such a toxic condition that he seemed to resent very little what was done. Although the operation was perfectly effectual in relieving the obstruction and removing from both the bowel and the stomach a large quantity of thin fluid fæcal material, the toxic symptoms in no way abated, but rather seemed gradually to increase until the child died 36 hours after operation. A post-mortem examination of the abdominal cavity was performed by Dr. John Anderson. Numerous fibrous adhesions of old standing were found binding together coils of intestine and by kinking the bowel in places had led to obstruction. There were no evidences of tubercle anywhere, nor were there indications within the bowel of tuberculous ulceration.

CASE 2.—A boy, aged 11 years, was suddenly seized, five days before admission to the hospital, with sickness, vomiting, and pain in the abdomen. The parents were told by the medical man in attendance that the boy was suffering from appendicitis. By the third day he was easier as regards his pain, but otherwise not well, and on the fifth day he was sent into the institution. On admission he was in a very lethargic condition. His face was pale and somewhat pinched; the eyes were sunken, with sub-orbital dark lines. He was only feebly aroused when spoken to. The tongue was dry and of a dull red colour, with prominent papillæ. The abdomen was retracted not painful on palpation, somewhat livid in appearance, and doughy in consistence. The temperature was 102° F. and the pulse very rapid and almost imperceptible. His condition being that of extreme toxæmia nothing was attempted in the way of operation. The child died an hour after admission. No post-mortem examination was allowed.

These two children, as seen on their admission to the hospital, presented the typical aspect of patients suffering from advanced toxæmia; the one, the result of intestinal obstruction, the other consequent upon peritonitis; the one, not sufficiently beyond the hope of relief by operation; the other, hopelessly without the pale of intervention. It is not my object in this letter to cast any reflections upon those who were responsible for the delay which occurred in sending these two children into the hospital. Whether friends or medical men were to blame I know not. But every hospital surgeon is cognisant of the fact that cases do not infrequently occur where the blame must be attached to the temporising treatment exercised by medical men in the face of conditions which, if allowed to continue, must inevitably lead to death. Fatal toxæmic effects are seen much more in hospital than possibly outside; and, I fear, in too many instances, when these cases are operated upon, the death which results is, if not actually attributed to the operation, at least assigned to other causes than those arising from toxæmia. Thus, it is conceivable that the practitioner never becomes sufficiently impressed with the dangers which attend delay; and when the acuteness of the symptoms has subsided he is apt to be misled into the erroneously fatal belief that all danger is over, the real fact of the case being, however, that the narcotising affects of toxæmia have commenced. Unless immediate action is taken by only such measures as will stop the continuous process of poisoning a hopelessly lethal condition is soon reached. These two children represented two classes of cases. In the one there was intestinal obstruction, in the other peritonitis probably the result of appendicitis. Other causes than those which existed might have led to the same toxic results. But while there may exist variations in the degrees of severity of the obstruction, or of the acuteness of the peritonitis, there comes a stage in all when the resulting toxæmia must, sooner or later, lead to death.

If one ventured to lay down a comparatively safe and helpful rule as some sort of practical guidance to those under whose observation grave abdominal symptoms first appear, it would be to say that no practitioner should take upon himself the sole responsibility of further dealing with a case about which before the lapse, say, of 24 hours, he has not felt satisfied in his own mind as to the nature and progress of the disease. If some other reason were needed than that which directly concerns the welfare of the patient it is to be found in that which touches the interest of the practitioner. When friends become aware, as they frequently do nowadays, that operation failed to relieve or cure because delay was exercised in bringing the patient under the requisite treatment the medical man's reputation sometimes suffers. Divided responsibility will, however, mitigate, if not entirely remove, the possibility of adverse criticism and spare all parties from the uncomfortable feeling that culpable neglect of any kind has been exercised.

I well remember when a student being taught by my old teacher the late Mr. Cooper Forster of Guy's Hospital that in bad cases of injury to the elbow in children it was wise to share the responsibility of the case with a fellow practitioner, so that if in the future impaired movement of the joint did follow blame could not be unjustly imputed to the supposed maltreatment of a single man. I think this advice applies with even greater force to cases of acute abdominal crises. For as the public gets to know more and more of the life-saving power of early operation they are apt to raise the question, in the event of a fatal result, whether life could not have been spared by earlier intervention on the part of the surgeon. These remarks will not fail to appeal to those who have already suffered in their professional reputation because of the delay exercised in bringing patients of this class under the timely intervention of the surgeon; and those to whom luckily no such unfortunate issue has occurred will do well to take advice by the forelock and avail themselves at least of one simple expedient which will prevent blame, even if such should subsequently accrue, falling entirely on their own individual shoulders.

If these few remarks may aid in bringing more prominently before members of the profession in general practice one of the most insidious and most serious complications that can accompany or ensue upon an acute abdominal crisis my feelings will not have misguided me in the wisdom of giving expression to them.

I am, Sir, yours faithfully,

A. ERNEST MAYLARD, M.B., B.S. Lond.,
Jan. 9th, 1909. Surgeon to the Victoria Infirmary, Glasgow.

MEDICAL MEN AND THE LAY PRESS.

To the Editor of THE LANCET.

SIR,—At the request of the Stratford Branch of the British Medical Association, some few weeks ago, I read a paper entitled "Medical Evidence and the Laws Relating to Compensation for Personal Injury." A short time afterwards the editor of the *Medical Magazine* wrote asking permission to publish the paper, and I agreed. In the article I took occasion to deprecate the increasing prostitution of medical evidence, which as you are aware is confined to an infinitesimally small proportion of the profession. I have been greatly annoyed to see in the daily press certain isolated quotations from my article which without the context are calculated to give a wholly unfair view of the position. The object of this letter is to state that I have taken no part in the publicity given to the article, nor was it done with my sanction, and that—while I am anxious that those who lay themselves open to the charge of unfair dealing should be exposed—the lay press is under no circumstances the medium that I should have voluntarily chosen for this purpose. I have communicated with the office of the *Medical Magazine* and am assured it has in no way been in communication with the lay press. The address, which was delivered in the East-end, was favourably received by members of the profession present.

I am, Sir, yours faithfully,

Hyde Park, W., Jan. 19th, 1909. R. J. COLLIE.

THE DIAGNOSIS OF SMALL-POX.

To the Editor of THE LANCET.

SIR,—Your review in to-day's issue on Dr. Ricketts's book "The Diagnosis of Small-Pox" recalls to mind my first acquaintance with a case of small-pox. The patient, an iron-worker, had sought relief for the initial symptom of pain in the back from a colleague who considered it due to lumbago and dispensed a strong liniment of acetic acid. As a profuse papular rash going on to pustules followed not only on the

site of application but also marked out the erratic course taken by the drip of the excess of liniment used with no sparing hand by the patient's wife, *secundum naturam humanam* fresh opinion was sought with the view of laying the onus on the liniment. This was rather a startling clinical picture to confront a freshman still blushing under the pride of his college degree. It might represent the results of croton oil or be an entirely new disease to be now revealed to an admiring faculty. But the discovery of one pustule on the fauces and the knowledge that two cases of small-pox were known in the town, happily for everybody, settled the question. Perhaps a contributing factor to this diagnosis was a remark that the late Sir W. T. Gairdner, whose knowledge and experience of small-pox were unique, made in his lectures on variola that a mustard leaf would determine a preponderance of the rash to the site of application and might be used to save the facial beauty of a lady patient. Is there anything new under the sun saving the demonstration and the insistence of points of view!

I am, Sir, yours faithfully,

Dereham, Norfolk, Jan. 16th, 1909. N. CAMPBELL.

UMBILICAL HERNIA IN INFANTS.

To the Editor of THE LANCET.

SIR,—The increasing frequency of occurrence of umbilical hernia in young babies is a fact which has become to me, as to Mr. A. Stayt Dutton, very noticeable of late. But since most of such cases in my practice have been those of children whose arrival I superintended, and since my method is to sever the cord at a point at least 2½ inches from the abdominal wall, Mr. Dutton's explanation does not seem to answer the question.

A condition which is common to all these cases of hernia in infants, umbilical and inguinal, is, to put it tersely, "flatulent dyspepsia." In every case it will be found that, whether real or fancied, the baby's natural pabulum "didn't seem to satisfy" it, and that some recourse has been had to artificial feeding, and in my experience injudicious artificial feeding is a much more potent factor in producing hernia than any anatomical peculiarity (less than a lacuna of the abdominal wall) the presence of which does not seem to matter at all so long as digestion is normal. It is an admitted fact that the number of mothers who cannot, or will not, give their infants the breast is continually increasing, and that, in my opinion, is the reason for the parallel increase in the occurrence of infantile herniæ.

I am, Sir, yours faithfully,

DONALD J. MUNRO, B.S., M.B. Lond.

London, S.W., Jan. 15th, 1909.

THE HUNTERIAN SOCIETY'S MEDAL.

To the Editor of THE LANCET.

SIR,—Last June you were good enough to insert a notice that the Hunterian Society had decided to award a silver medal annually for the best essay by a general practitioner embodying the results of his own investigations. In view of the number of applications received for particulars of the competition I venture to send you the following details.

The competition is open to all registered general practitioners in the United Kingdom and Channel Islands. The subject of the essay can be chosen by the candidate but must fall within the province of medicine, surgery, or midwifery. The essay must be unpublished and original and based on the candidate's own observations except for references to the literature of the subject. Observations may be included in the essay which have been made by means of special methods not available in ordinary practice by workers engaged in these special methods, but the candidate must duly acknowledge the source of his information. Two type-written copies of the essay must be sent in, together with any material which the candidate may desire to submit. The essay must be marked by a motto and accompanied by a sealed envelope containing the candidate's name, address, and qualifications, and a signed statement that he is a general practitioner. On the outside of the envelope the motto must also be inscribed. The last day for sending in essays for the present competition is Dec. 31st, 1909.

I am, Sir, yours faithfully,

W. LANGDON BROWN,
Senior Honorary Secretary.

Finsbury-square, E.C., Jan. 18th, 1909.

FEES FOR MEDICAL MEN IN CORONERS' COURTS.

To the Editor of THE LANCET.

SIR,—At a meeting of the honorary medical staff of the Enfield Cottage Hospital held recently it was unanimously decided to forward an appeal to the departmental committee appointed by the Home Secretary "to inquire into the law relating to coroners and coroners' inquests and into the practice in coroners' courts." In this appeal it was pointed out how hardly the law presses upon such medical staffs in not allowing any fees to be paid them when attending inquests on patients who have died in hospital. Reference was also made to the invariably sympathetic attitude of coroners and juries towards medical men when their attention is drawn to this injustice and the committee was asked to recommend that the law be altered so that we should receive the usual remuneration.

If the medical staffs of all such hospitals throughout the country would act in a similar way without delay there can be little doubt that sufficient pressure could be brought on the committee to induce them to consider this appeal favourably and it is with this object in view that I am asking you to publish this letter.

I am, Sir, yours faithfully,

HOWARD DISTIN, M.B. LOND.,
A Member of the Honorary Staff of the Enfield Cottage Hospital.

Jan. 12th, 1909.

GRATUITOUS PUBLIC SERVICES.

To the Editor of THE LANCET.

SIR,—Your leading article in THE LANCET of Jan. 9th emphasises the present-day tendency of public bodies to demand gratuitous services from the medical profession—services to which they are not legally entitled. The Infectious Diseases (Notification) Act, 1889, Section 3, requires that the notification shall give (only) the following particulars: name of patient, situation of building, and disease [The Public Health (London) Act, 1891, provides for further details, but I am not now referring to this Act]; yet it is becoming a common practice for district councils to issue forms of certificates containing the following additions: "The patient has been attending —— School, —— Road; I am informed that children from the same house are attending —— School, —— Road."

It is not always convenient to obtain this information, especially where two or more families live in one house, and in any case its acquisition is a demand on the practitioner's time; the council has no legal right to ask us for it, and when obtained it is of no real value to the sanitary authority, since the medical officer of health (or sanitary inspector) always obtains this information for himself when visiting the house after the receipt of the notification, and he would certainly take no active steps regarding the school in question till this personal visit had been paid.

The latest opportunity of extracting a gratuitous service from us is afforded by the Public Health (Tuberculosis) Regulations, 1908, which provide that the district medical officer shall notify to the medical officer of health all cases of phthisis occurring amongst paupers in his district. These regulations contain no provision for notifying the relieving officer, yet the guardians are sending out forms of certificates so that duplicates are to be sent to the relieving officer. These notifications to the relieving officer are quite useless, since the patient's name, address, age, and disease are stated on the medical sheets which are sent every fortnight to the guardians and are always seen by him.

I never fill in the infectious disease form beyond what is legally required, with the small exception of giving the patient's age, and I do not propose to notify tuberculosis to the relieving officer unless the authorities request me, as a matter of courtesy, to do so, show me the necessity for it, and offer to defray the postage. A short time ago I had a notification returned by a sanitary inspector, as I had "omitted to state the patient's age, and the information would be required by the medical officer of health for statistical purposes." It occurred to me that the sanitary inspector might have furnished this information after his domiciliary visit, and that, as the medical officer of health was not legally entitled under the Act to demand this information from me, a stamped envelope—provided by the district council—might

have been inclosed. These seem small matters with which to trouble you, but there is a large principle involved.

I am, Sir, yours faithfully,

Jan. 15th, 1909. BETA.

"ENOUGH TO RETIRE ON."

To the Editor of THE LANCET.

SIR,—"The daily round ..... will furnish all we need," &c., and no easier road than this same round did I know of until a timely illness forced me out of my rut and taught me something more of economics and climate. A few months' holiday abroad was to attune me again to the struggles of competition and to the exigencies of the public, but leisure was not quite so prompt in its work as was expected and now my six months in Italy has slid into ten years; running through the seven ages of hotel, boarding house, private family, furnished and unfurnished lodging, a flat, and own house. I have now the freehold of a comfortable stone-built house of a dozen rooms, with its garden and stable, standing 1000 feet above one of the most entertaining and cosmopolitan towns in Europe; simple sanitation, furnishing, a cob and traps, and the conveyancing formalities brought the capital expenditure to £800. Under £200 is our annual bill for everything: forage for ourselves, our callers and visitors, and animals; charging myself rent at £25 and taxes £6; fuel, lights, wages, repairs; and in short, everything.

Now that I am called away from Italy I find my original capital to be so comfortably swollen by the unfelt economy of ten years that I may untrembling face the exorbitant cost of living in England. Aside from matters of money and climate, I have got freedom—the stepping outside the limelight projected by the public on its medical man, leisure to hunt a hobby, to grasp a hand without feeling a pulse, to read other than THE LANCET (comprehensive though your pages are). That millionaire who complained that he had plenty to retire on but nothing to retire for must have been rather old. Ours is a simple life but not the simple life. With a plenty of Anglo-Saxon society have come our churches, clubs, libraries, golf, practising doctors, and such delights. Whilst the readers of THE LANCET are slaving away in damp and dark I will not worry them about Italian sunshine nor confuse them on the issues of the Licensing Bill by telling of good wine at a less cost than beer. I have said enough for them to gather that as well as the freedom I have enjoyed in Italy I have been able to practise such large and unfelt economy that I have now "enough to retire on" in England. I am, Sir, yours faithfully,

Florence. F.

*** Our amusing correspondent acknowledges that his letter is written in frank support of his advertisement in another column, but as he is a medical man and has a distinct message to other medical men we see no inconvenience in publishing it.—ED. L.

SANITATION IN INDIA.

THE PREVALENCE OF ENTERIC FEVER AMONGST BRITISH TROOPS IN INDIA.

(FROM A SPECIAL CORRESPONDENT.)

IV.[1]—*The Increased Prevalence amongst Mounted Troops as compared with Infantry.*

MUNSON[2] has pointed out the much greater prevalence of enteric fever amongst the cavalry as compared with the infantry in the United States army. He states that "for the period 1867–83, inclusive, the admission rates per 1000 of strength were as follows: cavalry, 19·0; infantry, 4·6; artillery, 2·5. For this 16-year period the cavalry thus suffered more than seven times as much from typhoid as did the artillery and nearly five times as much as the infantry, while their death-rate was more than three times greater than either of the others. This great difference is largely due to the active field service against Indians required of mounted troops. For the seven years period, 1890–96, the admission rates per 1000 of strength were 8·03 for the cavalry, 5·74 for the infantry, and 4·74 for the artillery. In time of peace the medical department is affected less than any of the above arms of the service; during the war with Spain it suffered more than twice as much as any of them." Amongst British troops serving in India the difference of prevalence of enteric fever in the different arms of the service is very marked and opens up a subject well worthy of careful investigation. For the period 1895 to 1907 inclusive, the admission rates per 1000 of strength work out as follows: infantry, 20·3; cavalry, 37·6; and artillery (Royal Horse Artillery and Royal Field Artillery), 24·9.

It is suggested that the increased prevalence for enteric fever from which the mounted troops suffer in India is in some way due to the animals with which they are brought into daily contact. These animals are chiefly horses, of course, but mules, bullocks, and elephants are also met with to a very much less extent. Although it has not been proved that any of the above classes of animals suffer from enteric fever or that the disease can be experimentally produced in them by inoculation, yet it has been stated that certain other animals may in rare instances suffer from a disease indistinguishable clinically and pathologically from enteric fever, such as rabbits and white rats.[3] As the water-supplies used by mounted troops for their animals is often, if not always, liable to pollution, and as it is believed that enteric fever bacilli can pass living and unchanged through their intestines, or perhaps even multiply and become more virulent, a very wide field of infection to man by means of infected stable litter, flies, soil, dust, and water is opened. It is suggested that research on these lines would prove of immense benefit, not only in determining the reason why mounted troops suffer more prominently from the disease than dismounted men, but also would help to clear up our knowledge of the cause generally of enteric fever in India. McCulloch has already made similar suggestions in advocating research on these lines. He says: "The same purity of water-supply for watering animals is not insisted on as is the case in the drinking supplies for human beings." (*a*) Is it possible that, while having no pathogenic influence on the animal, typhoid bacilli may sometimes be passed through its body in an active condition, and so infect stable litter, the ground of stables, horse and cattle lines, &c.? (*b*) Or is it that the men are more in the way of temptation to drink unsterilised water to assuage the pressing calls of tropical thirst than is the case with the infantry soldier?

The question of the increased prevalence of enteric fever amongst mounted troops as compared with infantry has been observed in some stations in India for some years back. For instance, at Mhow the same cavalry regiment occupied the cavalry barracks from 1898 to 1901 and it was noted that with unfailing regularity enteric fever was annually more prevalent in this regiment than in an infantry regiment at the same station, notwithstanding that the water-, milk-, and food-supplies were the same for the whole garrison, the only marked differences in the surroundings of the two barracks being that the cavalry barracks were nearer the bazaar and also that there was a native village in the vicinity. In 1904 at the same station (Mhow) the comparatively heavier incidence of enteric fever in the Royal Horse Artillery and 10th Royal Hussars, as compared with the infantry, is noted, and it was thought that this increased prevalence amongst mounted troops would seem to point to the fact that either: (*a*) there is some connexion between horses and enteric fever; or (*b*) that the comparatively harder work of the mounted branches is a contributory agent; or (*c*) that the larger number of natives employed by a mounted corps opens the way to more frequent infection; or (*d*) that the number of animals in the neighbourhood of barracks foul and infect the ground and atmosphere. With reference to (*a*) it may be stated that evidence is not wanting to prove the fact that horses foul and infect the ground in the vicinity of barracks and that of their lines and riding schools in particular. The following circumstance may be mentioned in connexion with riding schools and dust derived from polluted soil. At Ambala in the month of April, 1904, it was brought to notice that the majority of the enteric cases admitted to hospital were going through a course of equitation and the men complained very much of the clouds of

[1] Nos. I., II., and III. were published in THE LANCET of Jan. 2nd (p. 62), 9th (p. 134), and 16th, 1909 (p. 197), respectively.

[2] Munson: Military Hygiene. 1904 edition, p. 690.

[3] Horton Smith: Goulstonian Lectures, 1900.

dust in the riding school, many attributing their disease to this cause. On representation the officer commanding the 12th Lancers selected the open *maidan* (country) for the purpose, thus mitigating the dust nuisance to a very great extent. The result was most favourable, few cases occurring after this experiment. The source from which the soil in the riding school was obtained could not be definitely ascertained but it was most probably infected.

(To be continued.)

THE EIGHTH AUSTRALASIAN CONGRESS OF MEDICINE.

THE proceedings at this Congress, which was held in Melbourne towards the end of October last year, were of more than usual interest and the resolutions which were adopted in full conclave formed a fitting conclusion to the scientific work. They are, as will be seen, far reaching and drastic, and if certain of them are hardly applicable to social conditions with us we can none the less approve the spirit which instigated them. We regret that pressure on our space has prevented us from publishing an account of the Congress before.

(FROM OUR OWN CORRESPONDENT.)

At the commencement of proceedings resolutions of sympathy were passed with the relatives of the late Sir T. N. Fitzgerald and with Janet Lady Clarke in her protracted illness.

Dr. F. Anthill Pockley (Sydney) was unanimously elected President of the Ninth Congress to be held in Sydney in 1911.

WORK IN THE SECTIONS.

Medicine.

Many interesting papers were contributed to the section. On Oct. 20th there was a discussion on Syphilis opened by the PRESIDENT (Dr. G. E. RENNIE, Sydney). Dr. J. F. WILKINSON (Melbourne) read a paper on Modern Methods of Diagnosis in Gastric Disorders. On Oct. 22nd a combined meeting was held with the Section of Pathology and Bacteriology, the subject for discussion being Tuberculosis. Papers were contributed on opsonic estimation, vaccine treatment, sanatorium treatment, and Calmette's ophthalmo-reaction. In the afternoon a conjoint meeting with the Section of Surgery was held at which the subject of Anæsthesia was discussed. Intra-spinous and local anæsthesia were fully dealt with and a most interesting afternoon resulted. Subsequently other papers were read in the Section of Medicine on Pneumothorax and on Various Aspects of Typhoid Fever. On Oct. 23rd the subject for discussion was Anæmias found in Australia. The PRESIDENT read a paper on Aplastic Anæmia and Professor D. A. WELSH (Sydney) had two communications on Lymphocythæmia. Pernicious Anæmia was dealt with by various speakers, and Dr. R. A. O'BRIEN gave his experience in Northern Australia in the Anæmia of Malaria and Ankylostomiasis.

Surgery.

The PRESIDENT (Dr. B. POULTON, Adelaide) in his opening address dealt with the Surgical Aspect of Tuberculosis. In the Adelaide Hospital for six years ending 1907 42 per cent. of tuberculous cases were in organs other than the lungs. He thought that adequate value was not attached to the infective potentiality of surgical tuberculosis, and that all tuberculous affections should receive hospital segregation apart from the general wards. He concluded from his own experience that the last 25 years had seen little diminution in the prevalence of the disease. In South Australia lesions of the larger joints were most frequent—dactylitis and tendon-sheath invasions were rare and lupus was very uncommon. In spinal caries he treated the unruptured abscess after Barker's method. In the early stages of tuberculous glands without evidence of peri-adenitis removal was not advisable but when the disease was progressing a careful and clean excision should be made. Early operation was advisable in testicular involvements or in renal cases. Tuberculin was worth a more extended trial in these cases. His experience of brain affection emphasised the rarity of a single tumour removeable with advantage to the patient, and the same was true of the spinal cord. Tuberculosis of the skin was very rare in South Australia notwithstanding Stelwagon's assertion that it was quite common in Australia generally. He looked for aid from the work of Wright and his school, and the more so as the bio-chemical relations between the bacillus and the human body became more and more clear.

On Oct. 20th a discussion was held on Surgical Diseases of the Bile Passages and Pancreas, opened by Dr. W. A. GILES (Adelaide) on Technique and contributed to by Dr. H. V. CRITCHLEY HINDER (Sydney) and others. The Surgical Aspects of Syphilis were treated by Dr. R. A. STIRLING and Dr. DUNCAN (Melbourne). In the afternoon a conjoint meeting with the section of Gynæcology was held, the subject being the Surgical Treatment of Septic Peritonitis.

On Oct. 22nd Non-malignant Disease of the Stomach was dealt with by Dr. T. H. FIASCHI (Sydney) and Dr. J. RAMSAY (Launceston). An interesting paper on the Uses of the Cystoscope in Obscure Renal Disease was contributed by Dr. H. L. MAITLAND (Sydney). Dr. DUNHILL (Melbourne) read a very interesting experience of the Surgical Treatment of Exophthalmic Goitre based on an experience of 58 cases operated on under local anæsthesia. He expressed the opinion that no case was too far advanced not to receive benefit from the operation and many of his subjects had been the derelicts of the hospitals. Papers were contributed on Hydatid Disease with regard to precipitin reactions and the incidence of eosinophilia by Professor WELSH, Dr. CHAPMAN (Sydney), and others.

On Oct. 23rd a discussion took place on the Surgery of Nerves and Paralysis, opened by Dr. BASIL KILVINGTON (Melbourne) and Dr. H. S. NEWLAND (Adelaide). The Removal of the Gasserian Ganglion received notice from Dr. DUNCAN and Dr. O'HARA (Melbourne), the latter claiming a new method. Many other papers of surgical interest were contributed.

Obstetrics and Gynæcology.

The PRESIDENT (Mr. E. T. THRING, Sydney) in his address felt that he was there under false pretences when he said that there should be no such person as the gynæcologist pure and simple, but that they should look upon abdominal surgery as "our field of which the diseases peculiar to women form a part only, but a very important part." It seemed to him utterly illogical that the gynæcologist should be expected not to extend his field of operation above the umbilicus. Dealing successfully with intraperitoneal affections required special and prolonged training. Success did not mean that the patient left the operating table alive but that convalescence should be rapid and the "cure" complete. Anatomical knowledge was often lacking in operations upon the uterus. He pleaded for a wider knowledge and broader training for the gynæcologist. While not anxious to waste time he maintained the only clock the operator should heed was the patient's heart. If the condition allowed all work should be carefully finished. Unfinished work led to a second operation. Future progress must to a great extent lie in the perfection of technique and the utilisation of bacteriological findings. He concluded that "it is necessary that we should reconsider the position of gynæcology and obstetrics—first, as to its relation to general medicine and surgery; secondly, as to the training necessary for those who practise it; and thirdly, as to the probable lines of advance in the immediate future."

In this section Dr. J. A. G. HAMILTON (Adelaide) introduced a discussion on Fibroid Tumours of the Uterus, in which he urged the necessity for early operation. His personal experience had led him to the following conclusions: 1. That a large percentage of fibroids undergo some form of degeneration, but the majority, about 64 per cent., of degenerations take place in women who are 40 or more than 40 years of age; in other words, at or after the menopause. 2. That fibroid tumours of the uterus and visceral degenerations are found associated in a large majority of cases. 3. That young women who are anxious for maternity and possess small tumours which are causing no marked symptoms need not be subjected to immediate operation, but should be instructed to report for examination from time to time. 4. That all fibroids which are producing symptoms regardless of the age of the patient and that all fibroids in women about or after the menopause should be removed when diagnosed. He advocated, with certain exceptions, supravaginal hysterectomy in preference to panhysterectomy. Dr. Hamilton's views were generally endorsed by the section and the retention of healthy ovarian tissue was approved of.

The Causes, Results, and Treatment, Immediate and

Remote, of Injuries of the Genital Tract formed the subject of a paper by Dr. RALPH WALLACE (Sydney) who emphasised the deleterious influences of "civilisation" as a predisposing factor. The indications were "that midwifery is becoming a more pathological process than formerly and demands higher skill and sounder training on the part of the general practitioner with a corresponding increase in his remuneration for this class of work. The actual causes in operation to produce injuries of the genital tract are largely dependent upon deficiency in skill, training, and remuneration."

An important discussion was that introduced by Dr. FELIX H. MEYER (Melbourne) on the Artificial Termination of Pregnancy. The problem (he said) was one which should be approached with a mind free from bias or preconceived ideas due to any particular school or doctrine. The solution of the question from the standpoint of the obstetrician would alone satisfy the ethical and social demands. Dr. Meyer's conclusions were drawn from a personal experience of 5000 cases in hospital and private practice. Reviewing some of the more common complications of pregnancy—e.g., cardiac and tuberculous disease, chorea and other affections of the nervous system, nephritis, &c., he regarded the dangers as on the whole over-estimated, and in consequence fœtal life had been unnecessarily sacrificed. But in the various types of the toxæmia of pregnancy manifested by grave forms of excessive vomiting and significant urinary changes, the rights of the unborn child must of necessity be at times considered secondary to those of the mother. With the early recognition of these changes, however, and systematic urinalysis during pregnancy, the sacrifice of fœtal life would be reduced to a minimum. To this end he emphasised the necessity of the careful surveillance of every pregnant woman and of systematic and repeated examination of the urine throughout gestation. The neglect to obtain the urinary findings might mean the difference between the life and death of a woman. In dealing with contracted pelvis as an indication for inducing premature labour, he preferred Cæsarean section at term to induction at the seventh month. The paper evoked a wide and prolonged discussion in which Dr. Meyer's views were largely endorsed, more especially in regard to toxæmic vomiting of a grave nature, instances of fatal cases being brought forward by some of the speakers. Induction of premature labour as opposed to Cæsarean section found favour with a number of those present.

Public Health.

This section was well attended and many papers of great interest were read. The inspection of school children was considered and the experience of Tasmania was given by Dr. GERTRUDE HALLEY and Mr. A. H. CLARKE (Hobart). A very interesting paper on the "Maori: Ancient Customs, Modern Ailments, and Sanitary Reform" was read by Dr. POMARE (New Zealand) who is the chief medical officer in charge of natives and himself a native. The necessity for whole-time officers of health was affirmed and questions of vital statistics were fully dealt with.

Neurology and Psychiatry.

Dr. ERIC SINCLAIR (Sydney) presided and in his address dealt with the different lunacy administration of the States in Australia. Mr. W. BEATTIE SMITH (Melbourne) read a paper advocating a system of treatment without certification in approved homes under notification and inspection. Dr. KATE E. HOGG (Balmain) read a paper of some interest entitled "The Relations of the Female Pelvic Organs to Insanity." She was surprised to find comparatively few with signs and symptoms definitely suggestive of pelvic trouble. In dementia præcox she believed there were well-marked anatomical defects in pelvic organs of the majority of patients, absence or excess of ovarian secretion being a factor through altered metabolism not to be disregarded in insanity. A paper was read for Dr. W. FORD ROBERTSON (Edinburgh) on Recent Investigations into the Pathology and Treatment of General Paralysis and Tabes Dorsalis. Dr. J. M. FLASHMAN (Sydney), speaking on this paper, said that they must regard it as a high compliment that Dr. Robertson had sent them the paper and exhibits. His experience showed that working with Robertson's byno hæmoglobin agar when searching for a diphtheroid organism in any material one more often got it in this medium than in any other. His own views would be expressed later in a joint paper with Dr. Latham. Many other papers of interest were read and discussed.

Diseases of Children.

A section of Children's Diseases was included for the first time since the Congress met in Melbourne in 1889. The meetings were a pronounced success and were held at the Children's Hospital. The sectional work consisted chiefly of demonstrations given by the honorary staff of the hospital. On the first day a number of cases of Congenital Syphilis were shown and specimens of spirochætæ were also shown by Dr. W. A. WOOD (Melbourne). Dr. KILVINGTON gave a demonstration of the treatment of cases of Obstetric Brachial Palsy and showed cases successfully treated by operation. Successful cases were shown by Dr. STEPHENS (Melbourne) and Dr. W. KENT HUGHES (Melbourne). Dr. A. V. M. ANDERSON showed four cases occurring in one family. The President, Dr. A. JEFFERIS TURNER (Brisbane) read a valuable address on Lead Poisoning in Children. In a paper on Congenital Syphilis by Dr. P. B. BENNIE he stated that tainted children required seven visits from a lodge medical officer for every one visit paid to a non-infected child.

In the afternoon the section met conjointly with the Section of Neurology and Psychiatry and many feeble-minded children were exhibited. Examples of Mongolism were numerous and one was shown with a twin-brother who was a perfectly normal child. Examples of spastic paraplegia following birth injury and encephalitis were shown. Great interest was shown in sporadic cretins, some of whom had been under treatment for 10 years. A girl, aged 12 years, whose treatment dated back eight years, was then 12 inches below normal height and could not stand alone. She was now in the fourth class at school and only five inches below normal height. In conversation no one would detect anything abnormal. Dr. A. W. CAMPBELL (Sydney) gave lantern illustrations of the Appearances of the Brain in Amentia.

On Oct. 21st Dr. KENT HUGHES reduced a Congenital Dislocation of the Hip and a number of successful cases were shown by different members of the staff. Other congenital deformities were shown. Dr. Hughes gave a lantern demonstration of the anatomy and treatment of Talipes Equinovarus Congenitalis. Dr. A. JEFFREYS WOOD read a paper on Congenital Dislocation of the Hip.

On Oct. 22nd several cases of Spinal Caries and of Hip Disease were shown. Dr. BENNIE gave a demonstration of his method of measuring patients for the Thomas splint. In a discussion which followed all the honorary staff of the Children's Hospital approved of Dr. Bennie's opinion that a well-fitting Thomas splint was the best of all methods of treatment. The Prevention of Infectious Disease in Children's Hospitals was dealt with by Dr. W. E. SUMMONS (Melbourne) and Dr. R. D. MCMASTER (Goulburn). A debate followed and Mr. C. P. B. CLUBBE (Sydney) insisted on the importance of only considering provisions that were practically possible, as a great many suggested measures were unworkable in practice and could not be recommended.

On Oct. 23rd a large number of cases of Infantile Paralysis were shown illustrating various effects of the epidemic prevalent in Melbourne since last April. The principal splints used were Thomas's caliper splint and Crabbe's. Dr. H. DOUGLAS STEPHENS read a paper on the Recent Epidemic and Dr. W. C. MACKENZIE a paper on Treatment, advocating splints to prevent over-stretching of the paralysed muscles.

(To be continued.)

HANKOW HOSPITAL, CHINA.—The annual report for the year 1907–08 of this hospital, which belongs to the Wesleyan Methodist Missionary Society, shows that the cost of upkeep for the year, not including the support of the medical missionaries, was nearly £1000. £317 were received from fees and sales of medicines, and local subscriptions amounted to £122. The number of in-patients was 508 and of out-patients 5836. 225 major and 379 minor operations were performed. This hospital, which is stated to be one of the most up-to-date mission hospitals in the East, has 60 beds and a staff (including the two medical missionaries and one English nurse) of 34, of whom four are Chinese medical assistants and 14 are Chinese nurses. In future the institution will be known as the "Hodge Memorial Hospital" in honour of its founder, the Rev. S. R. Hodge, M.R.C.S., L.R.C.P., who died in 1907.

LOATHSOME FLOCK BEDDING.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

ACTION OF THE AUSTRALIAN GOVERNMENT.—A VISIT TO FLOCK MILLS.—PROFITABLE TRADE IN UNWASHED FLOCK.—BEDDING CONTAINING MORE FILTH THAN CRUDE SEWAGE.—PUBLIC ENDANGERED TO SAVE 2*s.* PER BED.—IMMEDIATE NEED OF LEGAL OR LEGISLATIVE ACTION.

FOR many years the loathsome character of the material employed for the making up of bedding used in this country has been denounced by various sanitary and other authorities. Apart from numerous paragraphs published in these columns a lengthier article was devoted to this subject on Sept. 7th, 1907, p. 727. It was then pointed out that so far back as 1885 the Local Government Board published a report on the grievance by Dr. H. F. Parsons, and to-day Dr. R. A. Farrar is drawing up another report on the same question, also for the Local Government Board. Better far than mere reports, whether official or otherwise, is the fact that the Manufacturers' Association of Great Britain has sent out a notification to the effect that "the Australian Government are about to issue Customs regulations preventing the importation into Australia, either in bulk or in furniture, of unwashed bed or furniture stuffing." This at all events is action, though unfortunately only applicable at the antipodes. Here at home there is at least one manufacturer who is thoroughly disgusted with his own business and for many years has endeavoured to bring about reform from within. His statement is quite simple. He longs for the day when either by law or by the force of public opinion the making of filthy bedding shall be abolished, so that his business may become a clean business instead of, as at present, a loathsome undertaking. It so happens that Mr. Peter Fyfe, F.R.S. Edin., chief sanitary inspector of Glasgow, who has made a special study of this question, accompanied a delegation of the Royal Sanitary Institute to visit the mills in question. These are situated near Bath and the visit was paid when the institute held its annual congress at Bristol in 1906. The delegation presented a certificate to Mr. T. R. Freeman, the manufacturer in question, which clearly defines the situation. The numerous signatories say that: "The washing, sterilising, and drying processes which the goods pass through appear to be perfectly satisfactory and through which all material for bedding, mattresses, and upholstery purposes should pass." But they add that they were also able to see how "bedding flock and wool can be made without being washed or sterilised and this filthy process is the one in which we believe a large proportion of the bedding material is made and which we condemn as being absolutely insanitary and unfit for the purposes to which it is applied."

One of Mr. Freeman's mills is situated in a beautiful valley some three miles from Bath and is called Monkton Combes Mills, doubtless because the coming of monks caused a water-mill and village to be built here. The mill was originally constructed by the monks and the walls of Mr. Freeman's private residence probably date from their time, for they are two and three feet thick and one is actually six feet thick. Those were days when jerry building and shoddy were unknown and the creation of industries based on the utilisation of waste products, however filthy, had not yet evolved out of the struggle for trade. Mr. Freeman, however, has so far respected the traditions of the place and the security of his own picturesque home that he makes the dirty bedding material a mile or two away over the hills at another mill. Consequently, on visiting Mr. Freeman, I was first admitted to view the better of the two processes. But the best process is not without its risks and dirt. The raw material is the same in either case. It consists of any form of wool, cotton, jute, or other vegetable fibre or animal hair that can be procured. It does not matter in what form this may be presented; a dirty old bit of matting, a lady's worn-out corset, the uppers of filthy carpet slippers, soiled underlinen, fragments of unwashed socks, rags sorted out of dust heaps or provided by the rag and bone merchants, all serve to make flock for bedding or for the cushioned seats of chairs and sofas. Obviously, and from the very commencement of sanitary science, the rag trade has been considered so dangerous that not a few sanitary reformers have desired its total abolition; but the close connexion between filthy rags, bedding, and furniture is not so generally recognised. Now that disinfection by steam under pressure is believed to be absolutely efficacious and is not so very expensive as to be absolutely prohibitive, the rag trade need not be abolished but disinfection should be enforced. In some cases the Washington Lyons or the Geneste and Herscher stove is employed, but in England at least this is quite exceptional. It was, however, the very general custom to clean and to purify the rags before they were converted into flock. Therefore flock was not considered a dirty or dangerous substance, but the practice of the trade has now been so largely altered that the employment of flock has become absolutely dangerous and this fact cannot be too widely known.

At the Monkton Combes Mills the older and cleaner process is carried out. Here the workers, rather than the consumers, risk their health. The rags come in large canvas bales and when these are opened the vermin jump out and some dust escapes. By breathing the one or being bitten by the other the workers may be infected. Indeed, only persons of very sound constitution who are exceptionally immune can be employed. When, as often happens, the newcomer turns sick he is told that the business does not suit him; an endeavour is thus made to get rid of him before anything serious happens. No sooner, however, are the rags unpacked than they are washed. For this there is an oblong-shaped trough with a division down the centre. At one end water comes pouring in through a four or a six inch main pipe and with sufficient force to produce a current. The rags in the water thus travel round and round the trough. The accompanying reproductions of photographs which I was able to secure at Monkton Combes Mills (Figs. 1 and 2) show that over a portion of the trough there is a sort of wooden box. Within this box there is a wheel, or rather a drum, of about two feet diameter with iron blades projecting all round. These blades are about three inches apart and three inches broad. The rags as they pass under this wheel get squeezed and beaten by these blades. The best sort of flock is made, not from rags, but from old bits of carpet. As this is a harder material, and sometimes there are large pieces of carpet, it has to be cut into small pieces. The trunk of an old tree stands close to the washing apparatus. With a hatchet a man chops the carpet material, as if it was firewood, into convenient-sized pieces before throwing them into the trough. At first the water which comes into contact with the rags or the fragments of carpet is very foul. After some ten minutes' washing in the large trough full of water but with the current or outflow temporarily arrested, I filled a soda-water bottle with this water and it was quite opaque, containing a large amount of heavy matter which soon settled to the bottom of the bottle. On filtration in some experiments made in THE LANCET Laboratory an offensive black sludge was obtained on the filter. The clear brownish fluid gave on analysis the following results:—

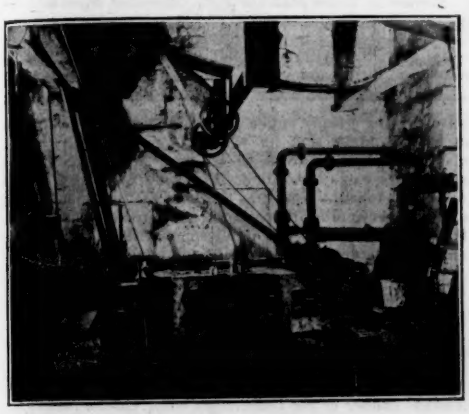
Total solid matter ...	210·000 grains per gallon.	
Organic ,, ...	140·000	,, ,,
Mineral ,, ...	70·000	,, ,,
Free ammonia	0·187	,, ,,
Albuminoid ammonia...	0·210	,, ,,

It is obvious from these results that the washing of the rags extracts a large amount of soluble offensive material. The solid matter on ignition gave off a very abominable smell resembling that obtained when glue is similarly treated. It must be observed that the water generally flows out as it flows into the trough. It is current water. At the end of from 40 to 60 minutes the water, which at first is black and is covered with dirty froth or foam, becomes quite clear. The question arises whether if these rags or old carpets have not been previously sterilised it is safe to allow the water which they have thus soiled to be discharged into running streams. After washing the rags or the bits of carpet they are put inside a centrifugal mechanical rinser similar to that which is used in steam laundries. This revolving at great velocity throws the greater part of the water out. Thus the material is now only damp. It is then dried in kilns where it is exposed, I was assured, to 210° F. of heat. That the washing is effective can be seen by the restored colouring of the filthiest old bits of carpet and by their sweet smell. After

an hour's beating in current water it is the water rather than the rags that might be considered as contaminated; then the dry heat to which the rags are exposed should also insure their purity. In any case the raw material after it has been thus treated can be qualified as perfectly clean material. It may not have been sterilised according to the orthodox methods, but it is as clean as the linen which we receive weekly from the laundry.

After the raw material has thus been cleansed it is converted into flock. This is done very quickly by a machine known in the trade as "the devil." It consists of cylinders

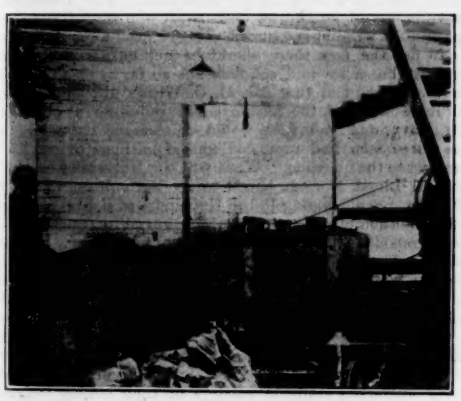
FIG. 1.



Monkton Combes Flock Mills. The washing trough for rags. The filthy foam can be seen on the surface of the water.

armed with sharp blades which, like teeth, tear the rags to pieces. The better material, such as that derived from good woollen carpets, is conveyed from these "devils" to a carding machine where it is reduced to a wool as fine as cotton wool. This is used for superior upholstery, bedding, and saddlery. The thoroughly washed rag flock or carpet wool can be bought wholesale by bed and furniture makers for 1¼*d.* the pound and is retailed for 2½*d.* or 2*d.* the pound. Now we come to the terrible fact that the same material, if

FIG. 2.



Monkton Combes Flock Mills. The washing trough for old carpets. To the left is the trunk of a tree on which they are chopped up. The box in the centre covers a revolving drum armed with blades which squeeze, cut, and tear the bits of carpet as they are dragged under.

uncleansed, can be sold with as much, or perhaps more, profit for three farthings the pound. A single bed requires about 30 pounds of flock, a double bed about 45 pounds. The uncleansed flock is retailed at three farthings the pound, whereas the washed flocks cost the furniture or bed-manufacturer five farthings per pound instead of three farthings. Therefore 45 pounds of flock that has been cleaned will cost the manufacturer of bedding 56¼ pence and with that he can make a mattress for a double-sized bed. But if he buys the same amount of unwashed flock it will cost him only 33¾ pence and he will thus save 1*s.* 10½*d.* For the sake of about two shillings the majority of flock beds now made in this country are made with absolute filth. This is not strong language but terms which chemical analyses prove to be justifiable. Mr. Peter Fyfe, to whom I have already alluded, reported to the Royal Sanitary Institute that he had examined at Glasgow the composition of 3163 beds taken from 2300 houses. There were only 22 hair beds and 115 feather beds. Then there were 103 made of cotton clippings, 371 of straw, 39 of chaff, four of shavings, one of old clothes, and 37 of clean flock. The remaining 2471 beds, that is, 78 per cent. of the total, were made of common flock. After ten minutes' rinsing Mr. Fyfe found that the water contained three times more suspended matter than the crude sewage of Glasgow. Mr. Fyfe says: "Expressed in grains per gallon the sewage contained 0·016 of free and saline ammonia, against 1·924 grains in the rinsings from half a pound of the flock. Of albuminoid ammonia, against 0·236 for the sewage, we have 2·002 for the flock. In oxygen absorbed in four hours at 27° C., sewage 3·811

FIG. 3.

The Freshford Flock Mills. Bales of rags ready for conversion into flock without washing or any other method of cleansing.

grains, against 13·840 for the bedding. In chlorine, 12·6 for sewage, against 22·4 for bedding." The analyses made by Dr. R. M. Buchanan, the Glasgow city bacteriologist, were equally conclusive. The bacteria in one gramme of the worst specimen of unwashed flock amounted at blood heat to 4,500,000, in Glasgow crude sewage they numbered 197,000, and in the Loch Katrine drinking water 75. Mr. Fyfe concluded his report by saying that "it would be manifestly safer to sleep on a bed filled with sewage than on this material upon which, as I have shown, 78 per cent. of our humbler fellow citizens are nightly sleeping."

My next visit was to the Freshford Mills where foul bedding is made. The only difference is that the rags are placed in the "devil" and converted into flock just as they are received without being washed or cleaned in any way whatsoever. The maggots and the fleas, the fæcal matter adhering to the soiled underlinen, the pus still sticking to the rags, the blood, especially catamenial blood, that saturates other rags, bandages or diapers, all go into the machine and come out at the other side with the sort of wool that is called flock. Mildly, I intimated that at most hospitals orders were given to burn bandages, poultices, &c., in the

furnace. My suggestion was greeted with laughter and the assurance that the marine store-dealers and rag merchants took better care of the education of the stokers and firemen. The latter have long ago learnt that instead of throwing these things into the furnace they could be put aside to provide an easy source of pin-money. Dr. Parsons, in his report, mentions the presence of rags soiled with blood or excrement, but he did not hear of poultices or bandages from hospitals. Obviously, he was not fully acquainted with the activities of the rag and bone merchants. The photograph here reproduced (Fig. 3) shows a few sacks of rags at the Freshford Mills, in which it so happens there was an extra supply of the fragmentary remains of very filthy, worn-out fustian trousers. Amidst a confused medley of rags, chintz, curtains, and underlinen there is a fairly sound hand-knitted cotton sock. Then there may be noted a greasy crumpled-up felt hat, a dirty corset or two abundantly stained with perspiration, foul slippers, and all sorts of worn-out discarded fragments coming from many houses, many persons; altogether a pitiable wreckage of what was once clothes or the furniture used in homes that in some cases were clean and prosperous and in too many other cases were unspeakably miserable and filthy. In summer time especially lice, fleas, and maggots abound amid this horrible refuse; and yet, in spite of its filthy, unwashed, verminous condition, it is all pushed into the "devil" where it is torn and carded and comes out as flock that is sold to stuff furniture and mattresses.

The beating and the tearing of these dirty rags create a vile dust and the hope might possibly be entertained that some of the worse filth would be eliminated in the form of dust. This, however, is but a vain hope, for the tremendous strife due to competition has led to the utilisation even of this obnoxious dust. It is not allowed to escape into the open air but is collected in large chambers where the heavier particles settle down on to the floor. Only the very finest dust escapes ultimately into the outer air. The heavier dust contains fine vegetable and animal wool fibre which when mixed with oil sticks together again. To give it more body the greasy waste from cloth mills is added in the proportion of 10 per cent. Thus the cheapest sort of flock is produced and this is used for the lowest class bedding and furniture. Some of the very finest dust to which it is impossible to give any consistency or body is sold for the manuring of the hop fields at the rate of £1 a ton. Of course, it pays very much better to sell this hop manure for bedding.

Worse, perhaps, than all this is the gross deception which I am assured is practised on the public. There are bed manufacturers who will not pay the price for washed flock and yet they advertise their wares as pure or sanitary bedding. Sometimes when a customer offers to pay a higher price so as to have absolutely clean bedding he is supplied with a better tick but the flock which it contains is the same unwashed and dangerous stuff used in the cheaper beds. Thus to save 2*s*. per bed the public is compelled to sleep on bedding that is more filthy than crude sewage. The health of the nation is endangered so that these tradesmen may make an extra 2*s*. When a patient's ill-health is difficult to explain it might be well to investigate the nature of the bedding on which he sleeps. The public on its side must take the matter in its own hands. In buying mattresses or upholstered furniture a written guarantee must be demanded. Then some of the wool or flock must be taken out and examined. It suffices to put some in a small bowl or tumbler and pour boiling water over it. If the flock is unwashed the water will extract dust, &c., and become highly coloured. There will also, and in all probability, be an unpleasant smell. Appended are some of the results obtained in THE LANCET Laboratory of an examination of some samples of unwashed and washed materials. 15 grammes of the wool or other material were placed in 500 cubic centimetres of water and allowed to soak. After shaking several times the water was poured off and filtered and examined for dissolved matter, organic and inorganic. The series is not exhaustive, but it will be seen that washing exercises a considerable purification of the material.

A few prosecutions for selling foul flock would do much to reform the trade. Even under the existing law, considering the vile material with which flock is made, it should be illegal to sell it in an unpurified condition. This might be considered as creating a nuisance or as obtaining money under false pretences, for no tradesman would admit that he was selling stuff which under analysis has been proved to be more filthy than crude sewage. It seems extraordinary that such a business cannot at once be stopped. Now that the Local Government Board has caused yet another report to be prepared on this subject, it is to be hoped that its publication will be followed by immediate, energetic, and effective action.

Extract in Water obtained from Washed Materials.

Material.	Total extract.	Organic.	Inorganic.	Remarks.
	Per cent.	Per cent.	Per cent.	
Carpet.	0·56	0·56	None.	Smell on ignition inoffensive.
Carpet wool.	2·20	1·64	0·56	Residue inoffensive on ignition.
Linsey wool.	1·40	1·40	None.	Residue inoffensive on ignition.
Extract in Water obtained from Unwashed Materials.				
Linsey flock.	4·90	4·20	0·70	Offensive smell on ignition of residue.
Dust and greasy waste.	4·20	1·40	2·80	Offensive smell on ignition of residue.

BRISTOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Dinner of the University College Colston Society.

THE Colston Society, which exists for the promotion of the interests of university education in Bristol, met for its annual dinner in the large hall of the College on Jan. 14th, under the presidency of Principal C. Lloyd Morgan, to whom, with Sir Arthur W. Rücker, the guest of the evening, fell the responsibility for the chief speeches. The President answered the questions, "What will the University be and what will it do?" by saying that it lay with the citizens of Bristol to shape the future of their University. In the court—the supreme legislature—the city would be fully represented; subject to this, executive power would rest with the council. He regarded it as supremely important that the city should send worthy representatives to the council, as in other places, notably Liverpool, the influence of such men had been highly beneficial. The University education would be thrown open to all who were able to use it profitably without respect of class or rank; for those less able to pay the fees there would be not only free studentships but bursaries and scholarships so far as means would allow. He claimed that Mr. H. O. Wills's gift was money well invested; "if the nation could purchase a potential Watt, Davy, or Faraday, he would be cheap at the price, for these three men had produced untold millions of wealth." In answer to the question, "What will the University teach?" Principal Lloyd Morgan hoped to see agriculture, fisheries, and commerce all finding in the University of Bristol a centre for the solution of their various problems, and suggested that some one should establish a Cabot chair of geography. He concluded by hinting at the close intimacy between university and city which would be brought about by the establishment of a centrally situated university hall and eventually a settlement. Sir Arthur W. Rücker in a most interesting speech outlined his views as to the destiny of the modern university. Its duties, he said, were threefold: to teach, to investigate, and to foster the academic spirit. He emphasised the need for making university students masters of their mother tongue, spoke of the great advantages derived from the mingling of men pursuing knowledge along the separate paths of science, art, and commerce, and drew a graphic picture of the saturation of civic life with university ideals such as might be expected in Bristol's future years. The Lord Mayor, Mr. Edward Robinson, who succeeds Principal Lloyd Morgan as president of the society, also spoke, as well as the Sheriff of Bristol and the President of the Chamber of Commerce. Mr. H. C. Trapnell, President of the Bristol Law Society, expressed the hope that the University would include a

faculty of law. During the past 12 months over £500 have been added to the society's funds.

The Health of Bristol in 1907.

The medical officer of health, Dr. D. S. Davies, has just issued a detailed report for 1907. This includes as a special feature an account of the investigations into "carrier" typhoid made by Dr. Davies in conjunction with Professor I. Walker Hall. There is no need to give an account of their findings, as these have already been fully described in THE LANCET.[1] Quite a number of "records" were broken during 1907. The death-rate, 13·3, is the lowest ever recorded in Bristol, and compares favourably with that of the 76 large towns during 1907 (15·4). The death-rate from epidemic diseases and the infant mortality-rate are better than in any previous year, 0·8 and 100·9 respectively. Comparative charts show that the fall in infantile mortality in Huddersfield during the three years 1905–07, which has been ascribed to the adoption of special measures, is scarcely more marked than that occurring during the same period in Bristol where no special methods are in use. Against these favourable features of 1907 must be set the fact that the birth-rate reached its lowest, 24·2, having decreased steadily since 1882. There is a voluntary notification system for pulmonary tuberculosis in Bristol; in 1907 542 cases were notified, as against 703 in 1906, while the death-rate has only fallen from 404 to 384 in the same time.

The Bristol Eye Hospital.

The annual meeting of the subscribers to the Bristol Eye Hospital was held on Jan. 13th under the presidency of the Lord Mayor. The medical report stated that during 1908 513 in-patients had been admitted, compared with 454 in 1907. The out-patients numbered 7387, an increase of 592 on the previous year. The financial statement showed that the income falls short of the expenditure and that the present deficit balance of the institution was £641. In 1910 the committee hopes to celebrate the centenary of the hospital and although nothing definite has been decided upon some suggested improvements in the building are under consideration.

The Bristol Dispensary.

The annual meeting of the subscribers to the Bristol Dispensary was held on Jan. 8th. The medical report showed that during 1908, 10,957 patients had been treated—a considerable increase on previous years. The report added that during the year the institution had lost the services of Dr. A. Carling, Dr. E. G. Hall, and Mr. J. B. Webb, after completing their full term of 15 years' service, and of Dr. A. W. C. Richardson who retired after two years' service from ill-health and who had recently died. The committee states that it is glad to place on record its appreciation of the good work done by these gentlemen.

Jan. 19th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Caisson Disease.

ON Thursday last in the medical theatre of the College of Medicine Sir Thomas Oliver delivered the annual address to the members of the Newcastle-upon-Tyne Clinical Society. The subject selected by Sir Thomas Oliver was the Physiology and Pathology of Work in Compressed Air (Caisson Disease), with especial reference to the Building of the New High Level (King Edward VII.) Bridge. As the text of the address is shortly to appear in your columns I say no more about it in this letter.

The Annual Dinner of the Clinical Society.

Sir Thomas Oliver was subsequently entertained to dinner by the members of the Clinical Society on the occasion of their annual meeting. There was a very large attendance of members of the profession from the city and district. The Lord Mayor of Newcastle-upon-Tyne, the High Sheriff of Northumberland, Sir Walter Runciman, Bart., and Alderman T. Richardson, D.C.L., were among the guests of the society. Dr. A. J. Collis, the President of the society, proposed the health of the guest, Sir Thomas Oliver. Dr. Collis reviewed Sir Thomas Oliver's work, especially that part of it which had to do with industrial diseases, remarking particularly upon the good which had resulted to workers in lead and phosphorus from Sir Thomas Oliver's investigations and recommendations, and concluded by saying that the King, recognising what Sir Thomas Oliver had done for that class of his subjects, had on their behalf rewarded him with the honour of knighthood. Sir Thomas Oliver, who was received with long-continued applause, replied in a very happy speech. He thanked those present for the very hearty welcome which he had received and said that though he had been singled out for recognition he was not the only member of the profession who devoted time and energy for the alleviation of the suffering of his fellow creatures. The amount of work done by every general medical practitioner without hope of reward of any sort and done in a quiet, unobtrusive manner was enormous. Sir Isambard Owen, principal of Armstrong College, proposed the toast of the College of Medicine and the Royal Victoria Infirmary. He said that there were no institutions in the world to which he hoped greater success. As regards the College of Medicine it could not be too widely known that the fine building in which the College is now accommodated, together with the ample equipment to be found therein, were the result of the efforts of the members of the profession alone without any help whatsoever from outside. In his opinion no bounds should be put upon the limits of ambition of the College. Newcastle was a natural centre of medical education and there was facility for the highest medical training and he concluded by saying that he thought they were justified in bringing the claims of the College of Medicine before both public and private benefactors and before the responsible governors and administrators of the finances of the city.

Jan. 18th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Sewering of the Monmouthshire Valleys.

THE Monmouthshire coalfield includes what are known locally as the western and the eastern valleys. The western district terminates a few miles to the north of Newport and the southern extremity of the eastern valleys is at Pontypool. Although in many parts there is almost a continuity of inhabited localities the sanitary administration is under the control of a large number of distinct local authorities, differing in this way from the conditions to be found in the Glamorgan coalfield where the area and population of the sanitary districts are very great. The difficulties of administration must always be increased when there is a multiplication of governing bodies which often have, or think they have, conflicting interests. It is all the more gratifying, therefore, to be able to record the completion of the large outfall sewer which has been constructed by all the district councils (excepting that of Brynmawr) of the western valleys. The total length of the sewer is 35 miles, and it is intended that a second sewer now being constructed in the adjoining Sirhowy valley shall discharge into the lower portion of that which is now completed. The total cost of the entire 50 miles of sewer will be rather more than about £300,000, and it is said that this will be the longest trunk sewer in this country, being some 15 miles longer than the Rhondda valley sewers which were constructed nearly 20 years ago. In connexion with the completion of this great undertaking it is impossible not to recall the part which was taken in its initiation by the late Mr. T. W. Thompson who inspected the district for the Local Government Board in 1895–96 and whose last report—a voluminous one of over 50 pages—recorded the result of his inspection. It will be remembered that he had barely completed his investigations and was actually staying in one of the colliery villages when he was attacked with the illness which in a few days proved fatal. The record of his work in Monmouthshire is a monument of painstaking industry, and although between the date of his untimely death and that of the decision to construct the work now completed many schemes were propounded, it is due to his memory to remind some of those who may have forgotten that he distinctly favoured some such scheme as that which was finally decided upon in preference to separate or piecemeal undertakings for the different

[1] THE LANCET, Nov. 28th, 1908, p. 1585.

localities. It would be a graceful act on the part of the Joint Sewerage Board if some permanent recognition were made of the important part which was taken by Mr. Thompson in respect to the scheme which it now has under its control.

Small-pox at Barry.

In common with the rest of the country, South Wales has been remarkably free from small-pox for many months, so that some anxiety has been caused by the discovery of four cases of the disease among the crew of a vessel which arrived at Barry from India on Jan. 12th. The whole of the crew to the number of nearly 50 were vaccinated, and as there is a well-equipped small-pox hospital at Barry there is little likehood of any more cases occurring. There is so much intercourse between Barry and Cardiff and the populous districts around Pontypridd and Merthyr that some concern may naturally be felt among the inhabitants of those towns. It is, however, satisfactory to know that most of the sanitary authorities concerned have had the foresight to provide isolation accommodation for small-pox as well as for other diseases.

Overcrowding of Cardiff Workhouse.

The question of providing increased accommodation for the indoor paupers of the Cardiff Union has been engaging the attention of the board of guardians for a long time. Its consideration has been postponed from time to time for various reasons, the latest being a desire to know what are the precise recommendations which will be made by the Royal Commission. Unless those recommendations contain some practical proposals for dealing with the indoor poor otherwise than in workhouses the necessity for erecting more buildings in connexion with the Cardiff institution will become urgent. So great is the pressure upon the available accommodation that at the last meeting of the board it was decided to give up the committee rooms and, if necessary, the board room itself for the use of the inmates.

The Gloucestershire County Council and Post-mortem Examinations.

At a meeting of the Gloucestershire county council held on Jan. 12th it was reported that the finance committee considered that Mr. E. M. Grace, a county coroner, had ordered post-mortem examinations in what it considered unnecessary cases. Mr. Grace, when written to on the subject, had replied to the effect that simply without these examinations the jury and himself would not have known the cause of death, and without finding that an inquest was useless. Lord St. Aldwyn remarked that he imagined that it was the duty of a coroner to ascertain whether the death was due to natural causes or not and not whether it was due to heart disease or any other particular disease. It would be interesting to hear his lordship's plan for discovering whether death was due to natural causes without looking inside the body. Eventually it was decided to refer the matter to the Home Secretary. The county council should remember that Mr. E. M. Grace, as a medical man and coroner of many years' standing, would be very unlikely to order any unnecessary post-mortem examinations.

The Temperature of Factories.

At the Cardiff police court on Jan. 13th the Educational Publishing Company were summoned by His Majesty's inspector of factories under Section 6 of the Factory Act which provides that a reasonable temperature should be maintained. The inspector stated that he had visited the factory previously and advised that it should be heated for the winter. He again visited it recently and found women workers in the binding room suffering from the effect of the cold. The temperature of the room was about 43° F. In giving judgment Mr. Milner-Jones said that the company had shown a want of consideration and to keep the place so cold was absolute cruelty. The penalty inflicted was £5 and costs.

Boards of Guardians and the Medical Inspection of School Children.

The Salisbury board of guardians has postponed for six months a decision on the point whether it should pay the expense of operations, &c., recommended by the medical inspector of school children in cases where the parents are unable to bear the cost.

The Plymouth Workhouse Infirmary.

The new workhouse infirmary at Plymouth was formally opened on Jan. 12th in the presence of a large gathering. The foundation-stone was laid in 1907 and the building consists of four main wards, administrative block, nurses' home, &c. The administrative block contains two receiving rooms, an operating room, an anæsthetic room, &c. The nurses' home provides accommodation for 20 nurses and a superintendent nurse. The infirmary stands on a site of about three acres and will provide accommodation for 300 patients. The cost of the undertaking has been about £35,000.

Jan. 19th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Edinburgh Territorial Hospital.

THE second Scottish general hospital of the Territorial Force has had its organisation practically completed and with a view to marking the occasion a mess dinner was held on Jan. 13th in the Caledonian Station Hotel, Edinburgh. The officers of the hospital have been mainly selected from the honorary staffs of the Edinburgh Royal Infirmary and from Leith Hospital. Lieutenant-Colonel Wyville Thomson, the administrator of the hospital, occupied the chair, and on his right sat Mr. Haldane, the Secretary of State for War. There were several other guests, including the Lord Provost of Edinburgh. The chairman, speaking of the progress that had been made, stated that the *personnel* of the hospital was complete as regards officers and rank and file. A very high class of enthusiastic and intelligent men had been recruited and their numbers could have been doubled. With regard to instruction and training, he thanked the University and the authorities of the Royal Infirmary for the facilities which had been granted. Of the total nursing staff of 120, 75 had already been enrolled, and the lady superintendent at the infirmary had no doubt that the whole number required would soon be reached. Mr. Haldane, in an interesting speech, dwelt upon the need of a scientific foundation, and said that for army organisation the problem was how to devise the most perfect organisation. In doing this he acknowledged that the scheme for the hospital organisation had been shaped and fashioned by Sir Alfred Keogh, to whom had been given a free hand, while the part which he (Mr. Haldane) had taken was to stand between Sir Alfred Keogh and the critics. The scheme had been worked out after consultation with the Army Service Corps, with the heads of the medical profession and with the profession as a whole. The result was that the organisation was to him fascinating because it was based on science—it was the work of experts fashioned with a view to a great contingency. Passing from hospital organisation, Mr. Haldane then spoke of the old idea of exercises, in which the soldier was trained, as exercises which involved a maximum of exercise directed to no matter what end, as gone. The exercises which gave rise to "soldiers' heart" were superseded by exercises based on the teaching of physiology and anatomy which gave a maximum of development with a minimum of strain. A few other speeches were made and it was felt that the occasion had been wisely as well as pleasantly used.

Fraserburgh Parish Council: Appointment of Medical Officers.

At the monthly meeting of the Fraserburgh parish council held on Jan. 11th it was intimated that the Local Government Board agreed to No. 3 medical district being divided, and that a salary of £15 be paid to each medical officer. The board recommended that the medicines should be obtained by contract from local druggists instead of paying the medical officers a fixed annual allowance for medicines. Dr. J. S. McConnachie was appointed medical officer to No. 3 district and Dr. Glessor to No. 4 district.

Aberdeen Trades Council and the Infirmary Board Contract.

At a meeting of the Aberdeen Trades Council held on Wednesday last one of the delegates, in terms of notice, moved:—

That in view of the fact that the Infirmary Board had given their contract for the supply of bread, &c., to a non-union firm the council should approach the board with a view to having the decision rescinded, and in the event of the board failing to comply with the request that the union be approached to consider the advisability of withdrawing their financial support from the Royal Infirmary.

After discussion it was unanimously agreed to remit the matter to the executive for consideration and to frame an emphatic protest.

Epidemic of Scarlet Fever in Aberdeen.

Dr. Matthew Hay, medical officer of health of the city of Aberdeen, states that the present epidemic of scarlet fever is the worst experienced in Aberdeen since 1897, when there were over 1000 cases. The epidemic made its appearance towards the end of September and up to the present there has been an average of 50 to 60 cases per week. The severity of the present attack is to some extent due to the fact that there has been very little scarlet fever in the town for several years. The attack is, however, fortunately not of a particularly virulent type and the death-rate is very low.

University of Aberdeen: Introduction of Professor G. Dean.

The University of Aberdeen classes at both King's and Marischal Colleges were resumed on Jan. 12th after the Christmas vacation. There was a large attendance of students. In the pathology class-room Professor G. Dean, who has succeeded Professor D. J. Hamilton as professor of pathology, was introduced to his class. There was a large attendance of students to welcome Professor Dean, while there were also present several members of the Senatus and University Court. Principal Lang, who introduced the new professor, made a feeling reference to Professor Hamilton and expressed the hope that he might recover strength and enjoy a long and tranquil continuation of his days. Referring to Professor Dean the Principal said that the Crown had made an appointment that commended itself to all. Professor Dean, who was received with loud cheers, also referred in sympathetic terms to the severe loss which the University had sustained by the retirement of Professor Hamilton and then proceeded to deliver his opening lecture on the Conveyance of Infective Diseases in the Light of Modern Research.

Jan. 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Question of Homes for Inebriates.

THE report of the Departmental Committee on the working of the Inebriates Acts is very naturally receiving a good deal of attention in Ireland—where a very considerable proportion of the annual earnings passes into the public treasury through the easy conductorship of the alcoholic medium. Some difference of opinion will doubtless continue to exist as to the justice of compulsory committal to a drunkards' retreat—which must in the nature of men and things be open to occasional grave abuse. The committee adopts the opinion of very many of us here: That it would be a distinct economic advantage to the community to provide retreats for poor and destitute inebriates. As it has not yet made any specific recommendations with regard to Ireland we are allowed a vista of hope; and Irish public bodies and individual legislators should surely utilise the opportunity of exercising judicious influence. It is desirable to note in this connexion that, for reasons that are well explained by the members of the committee, the only witness from Ireland who was examined by the committee was Sir George Plunkett O'Farrell, inspector of lunatic asylums, of inebriate retreats, and of certified inebriate reformatories. The value of his evidence, however, is emphasised by the fact that in addition to his unrivalled special experience Sir George Plunkett O'Farrell holds a record of distinction as a medical practitioner and subsequently as Government official—successes anticipated for him when he left Trinity College as the "first man of his class" and holder of the coveted Travelling Prize. Sir George Plunkett O'Farrell insists on the want of a large certified reformatory for the reception of drunkards of both sexes. At present there is but one such institution in Ireland, that at Waterford, which has been started as an experiment by a religious community. There are 21 inmates. It is most unsuitably situated, being in the city, and not having requisite land for entertainment and exercise. The Irish Women's Temperance Union has established one in Belfast which has 11 inmates; and there is a State reformatory at Ennis for habitual drunkards convicted of offences punishable with imprisonment or penal servitude where drink was a contributory cause of the offence. This is under the control of the Prisons Board and has 51 inmates. The inadequacy of the provision thus made is very evident to a country in which 43 per cent. of the total committals are due to drunkenness and the disorderly conduct therewith associated. As "the Treasury takes from Ireland nearly £6,000,000 per annum through the Inland Revenue for duty on intoxicating liquors and licences," it can surely afford some further provision.

Old Age Pensions and Disability Due to Poor-law Relief.

The daily press in Ireland continues to wage its strong crusade against the Poor-law relief barrier which so unjustly disfigures the Old Age Pensions Act as far as Ireland is concerned. It has been truly pointed out that, granting the difficulty of formulating a perfect scheme, the distinction drawn between medical and other relief is, in the case of persons aged 70 and upwards, a good deal too fine to convince anyone of its soundness. The position is generally recognised as oppressive, that the poor old man or woman who perhaps once received a couple of shillings in cash or kind by way of relief should thereby be shut out from a pension. And we are here confronted with one of the startling—and ever-recurring—anomalies of the law in the contrast furnished by the position of the pensioner who has a bank deposit of £1000 to his credit. As one of the Nationalist papers points out: "In Ireland the disability attaching to the receipt of relief has been very keenly felt. The resolutions of pensions committees, boards of guardians, and other public bodies show that the poor have been compelled to pay dearly for their poverty." The Rev. Father Colleran of Cashel, Achill, has addressed a letter on the subject to the Local Government Board objecting to the disqualification of men who have received in the form of food a little medicine—in other words, medical relief. The argument is that "the nourishing food ordered by the doctor for the old creature of 80 or 90, and there are many such cases, is really the only medicine that the enfeebled constitution requires; and to disqualify the recipient because it is not technically medical relief is a severity that ought not to be mentioned in the beneficent Act," and medical men will feel that this is a point of view which the law might well adopt.

High Death-rates in Irish Towns.

A very high death-rate has visited many Irish towns with the advent of the New Year. For the week ending Jan. 9th the death-rate in Kilkenny reached the startling record of 44·2 per 1000, while that of the previous week had been 19·7, and that of each of the two weeks preceding the latter 9·8 only. Clonmel came next to Kilkenny with 36 per 1000 in that record wave of mortality; but its rate had been exactly the same in the previous week. For the corresponding dates the Lurgan rates rose from 31 to 35·5 per 1000. The Newry rate was 33·5 (week ending 9th). In six other of the 22 town districts the rate exceeded 20; Newtownards, 28·5; Wexford, 28; Limerick, 27; Tralee, 26; Dublin, 23·5; and Lisburn, 23. The deaths due to epidemic diseases averaged 1·2 per 1000, the rates varying from 0 in 17 districts to 5·7 in Newtownards. Of the deaths which occurred in Dublin during the week ending Jan. 9th 83 of the deaths occurred in hospitals and other public institutions. Of these 10 had been admitted from outside areas. Of the total of 190 deaths 26 were from bronchitis, 29 from tuberculous diseases, and 21 from pneumonia. Measles accounted for nine fatal results; there had been three in the previous week. There were 56 deaths of children under five years old, and 53 of persons over 60, including nine octogenarians. Two of the deaths were of persons aged 90, one of 94, and one of 98.

Presentation to the Ven. Archdeacon Clarke, M.A., M.D., LL.D. Univ. Dub., M.R.I.A.

Archdeacon Clarke has been made the recipient of an address, accompanied with silver candelabra and a bound set of the volumes of Hastings's "Dictionary of the Bible." The presentation was made by his parishioners and other friends as a token of their appreciation of his services to his church and its people since he became rector of the united parishes of Boyle and Aghanagh 25 years ago. The address was cordial and enthusiastic in its expressions of recognition of what Dr. Clarke has done for the parishes intrusted to his pastoral care. Francis Edward Clarke graduated as M.B. of Dublin University in 1868 and M.D. in 1873, and was for a series of years one of the most popular and successful practitioners in Drogheda. In those days he contributed many

original and valuable papers to the literature of his profession. He has since written some of the best of recent contributions to the literature of the Masonic Order, in which he occupies a prominent place. His antiquarian attainments and literary accomplishments secured him the Membership of the Royal Irish Academy, to the proceedings of which he has contributed items of exceptional interest and scientific importance. It should be added that on this occasion Catholic and Protestant, Radical, Home Ruler, and Conservative alike joined in their enthusiastic recognition of the fine qualities and erudition of Archdeacon Clarke.

Alcoholic Cases in the Belfast Union Infirmary.

Mr. Joseph Fulton, the medical visiting attendant of the Belfast workhouse infirmary, has just presented to his infirmary committee a report on the subject of alcoholic cases admitted under his care in the observation and surgical wards. A number of these are in a condition of delirium tremens on admission and many develop this condition soon after admission. For these most dangerous and expensive cases the law allows the guardians to charge those patients who can pay 6*s.* 5*d.* per week, a sum which is almost ridiculously out of proportion to the cost of their maintenance. Mr. Fulton thinks that the charge ought to be 3 guineas a week (the charge in the Royal Victoria Hospital). "Were it not," he says, "for the admission of this constant stream of alcoholic cases, the workhouse, to a large extent, would soon be non-existent," and "the system of admitting them without any restraint is simply, owing to the necessary neglect of their homes, manufacturing paupers by the hundred, who will in years to come fill and be the permanent inmates of your workhouses and asylums." During the year 1908 there were 3311 cases treated in the surgical wards of the Belfast workhouse. This number does not include those cases, a good number of whom were alcoholic, who were treated in the surgical wards and then transferred to other wards for further treatment. The alcoholic cases treated in the wards included in the above number, but excluding cases of transfer referred to, amounted to 490, and here are the particulars of these cases:—

—	Males.	Females.	Total.
Alcoholic cases with injury	92	60	152
Alcoholic cases with delirium tremens	56	22	78
Alcoholic cases with simple drunkenness	90	54	144
Alcoholic cases with deaths	10	3	13
Alcoholic cases brought in by police ...	50	53	103
Total	298	192	490

The number of days' treatment for alcoholic cases alone was 3715; average for each patient, 7¾ days; for each male, 8½ days; and for each female, 6½ days. Mr. Fulton estimates the weekly cost per patient of "D.T." as under: medical attendance, £1 1*s.*; nurses (day and night), £1 1*s.*; food, 4*s.*; medicines, 5*s.* 6*d.*; stimulants (average 6 ounces per day), 4*s.* 6*d.*; bed linen, 2*s.* 6*d.*; occupation of room, 5*s.*; fire and light, 1*s.*; and dressings, 7*s.* 6*d.*—£3 12*s.* This report has come as a great surprise to the ratepayers of Belfast who feel that they are being thoroughly mulcted for treating such victims of their own vices. The guardians will soon consider very fully this most able but deplorable report.

Jan. 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

An Authoritative Protest against the Employment of Arsenical Compounds in Agriculture.

THE Academy of Medicine devoted the greater part of its sitting on Jan. 5th to the consideration of a very important report by M. Mouren who spoke in the name of a committee composed of M. Yvon, M. Hauriot, M. Thoinot, M. Chantemesse, M. A. Gautier, and M. Cazeneuve, who were appointed to consider the employment of arsenical compounds to destroy parasites of the vine. M. Mouren urged with vigour that these products should be forbidden, on the strength of the committee's unanimous vote. Although in theory it is quite true that wine coming from grapes treated in this manner contains quite insignificant quantities of arsenic, there must be borne in mind the dose of the wine absorbed, the possible duration of poisoning, and the danger of intoxication from frequently continued doses in patients with faulty renal elimination. But there is a more forcible argument still. As a matter of fact the arsenic is brought into the wine-growing districts by the ton. Its use is intrusted to labourers who are often ignorant; mistakes are very easy to make and terrible accidents are liable consequently to occur. Recently a whole family was poisoned by a wine into which the purveyor had put arsenic in mistake for plaster. In the vineyards the labourers scatter the arsenic broadcast, their only precaution being to walk backwards, and the wind quickly spreads the deadly dust all over the country. The workmen carry it off on the soles of their boots and in their clothes. Neighbouring pastures and fields with their crops of lettuces, vegetables, and fruit are contaminated. Considerable quantities of the poison have even been found in the snails that feed on these vines. The use of arsenic in agriculture does much more harm than good and is a permanent danger to the community.

Secondary Subdiaphragmatic Hydatid Cyst of Traumatic Origin.

On Jan. 6th M. Cranwell described to the Chirurgical Society the case of a man, 50 years of age, who had had a fall from a horse ten years before, which was followed by severe abdominal pains for several days. These disappeared and the patient resumed agricultural labour, but ten months later he began to suffer from digestive troubles and lost flesh, whilst a tumour was noticed in the right hypochondrium. A puncture was made in the eighth intercostal space and a little serous effusion escaped from the pleural cavity. Several days later the patient became deeply jaundiced and fell into a nearly comatose condition. Laparotomy was performed and it was found that this state of things was due to the rupture of a hydatid cyst of the liver and that the peritoneum was full of cysts. There were signs of peritonitis and this condition led to the patient's death. *Post mortem* cysts were found in nearly every organ of the body, whilst on the lower surface of the diaphragm and adherent to the liver were numerous little hard tumours outside Glisson's capsule. There was also a large subphrenic cyst which was secondary to a ruptured hepatic cyst. These accidents are frequent amongst the peasants in certain districts. Sometimes they do not cause any ill-effects but at other times severe, and even fatal, symptoms supervene. As a rule, surgical intervention has only a limited scope and can only afford temporary relief.

Wound of the Abdomen by a Revolver Bullet.

M. Souligoux showed before the Chirurgical Society on Jan. 6th a young girl who had been accidentally shot in the abdomen by a revolver bullet, and who, except for some slight pain at first, showed during all the time when she was in hospital not the slightest symptoms of peritoneal injury which would justify surgical intervention. In these circumstances treatment was confined to strict rest and dieting and five weeks later the patient was out of any danger of secondary complications. Radiography showed that the ball had completely traversed the abdomen from front to back and had lodged in the right side of the second lumbar vertebra.

The Ultimate Results of Prostatectomy.

At the Medical Society of Paris on Dec. 26th, 1908, M. Desnos read a paper on this subject. New and important methods in performing prostatectomy by both hypogastric and perineal routes have diminished the sequelæ and complications of the operation and have greatly reduced its mortality. Persistent incontinence and perineal fistulæ from this cause are now practically things of the past and impotence rarely follows on the hypogastric operation. Numerous patients operated upon ten years ago remain cured with no local recurrence or renal complication. This result will certainly induce surgeons to extend the limits of the operation as far as clinical caution will permit. Simple retention is not a sufficient indication nor is a diagnosis of hypertrophy of the prostate without symptoms. It should be removed if there are severe local symptoms or any damage in the upper urinary passages. The renal secretion should

be investigated carefully in every case of retention, analysis of the urine, methylene blue, cystoscopy, and all other methods being employed. If the secretion should show any signs of failing an immediate prostatectomy is indicated.

"Human Radiations" or V Rays.

Commandant Darget has recently shown before the Academy of Sciences photographs of words obtained by placing the words on the forehead under a threefold paper cover which excludes all the light. The so-called "V rays" emitted by the body appear to act like radio-active substances. M. de Routenay read before the Academy of Sciences on Jan. 11th a note communicated by M. d'Arsonval, which shows the possible fallacies of this method of demonstration, viz., the action of the moisture and heat of the forehead and the possible preliminary insolation of the wrapping papers. He does not, however, doubt the accuracy of Commandant Darget's observations, for the two factors mentioned would only give rise to very slight images, whilst "V radiograms" are as clear as photographs taken by x rays or ordinary light rays.

The "Phono-educator."

On Jan. 11th M. Carpentier showed before the Academy of Sciences Dr. de Pezzer's new "phono-educator," an apparatus which gives a graphic representation of a phonographic vocal record and permits of a plain analysis of defects in singing, pronunciation of foreign languages, or in articulation.

Jan. 19th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Bronchiolitis Fibrosa Obliterans Acuta.

AT a recent meeting of the Berlin Medical Society Professor Fraenkel read a paper on a condition which he described as bronchiolitis fibrosa obliterans acuta, the principal feature of which is a blocking of the bronchioli by the acute or subacute development of connective tissue. The process is usually spread over both lungs and within a short time causes death by suffocation. The patients were all men working in trades in which they were liable to respire irritating gas or dust. The case of which specimens were shown to the society was that of a man, 25 years of age, who was taken to the hospital for dyspnœa and cyanosis. On percussion no dulness was detected over the lungs which proved to be emphysematous; on auscultation crepitation and rhonchi were heard; examination of the sputum gave no help. The clinical diagnosis was bronchiolitis obliterans acuta and was a fortnight later confirmed by necropsy. The majority of the bronchioli were filled by a growth growing from their walls and this pathological condition spread over the alveoli. The clinical symptoms were also somewhat like miliary tuberculosis: both diseases show increasing dyspnœa, crepitation on both sides of the thorax, and emphysema. In bronchiolitis, however, the sputum is free from tubercle bacilli and a tuberculous focus is absent. Influenzal broncho-pneumonia may be distinguished by the dull patches on percussion, the presence of the influenza bacillus, and the absence of emphysema. In fibroid pneumonia the lesions are local in the lungs only and are generally unilateral. A similar condition has been described by Dr. Hart as a sequel to measles, where also an obliteration of the bronchioles was produced by the growing of granulations from the peribronchial connective tissue into the lumen of the tubes. The disease frequently leads to a fatal issue even in from 14 to 24 hours; the temperature ranges from 38° to 39° C. When the patients recover a certain degree of emphysema is generally left behind. There is, of course, no specific treatment for the condition and it is essential that prophylactic measures should be enforced in trades where the workmen are liable to respire irritating gases.

Bacteriological Examination in Infectious Diseases.

Bacteriological examinations in cases of supposed infectious diseases occurring in Berlin will henceforth be made free of charge. By an agreement between the municipal and State authorities of Berlin the hygienic laboratory of the city and the laboratories of the hygienic institute and of the institutions for infectious diseases will undertake to perform these examinations. For that purpose the city is divided into three districts, each served by one of these laboratories. The laboratories will not only examine cases under the law against infectious diseases but also material sent by private practitioners in cases of diphtheria, cerebro-spinal meningitis, enteric fever, dysentery, anthrax, glanders, food poisoning, and trichinosis. Specimen glasses for material for examination will be kept ready by the licensed druggists and chemists and given to the public free of charge by order of any medical man. A paper will be supplied giving information as to the collection of material, and blank forms to fill up with particulars of the patients' condition will be given to the medical men. The post-office authorities have agreed to convey the parcels free of charge. The provisional result of the examination may be communicated to the medical man concerned by telephone and a written report will then follow. It is to be hoped that the medical profession will make an extensive use of these arrangements by which so much time and trouble will be saved them and a trustworthy examination guaranteed. Tuberculosis does not fall under the arrangement, as the laboratories cannot undertake to examine sputa for the presence of tubercle bacilli.

The Sequelæ of Cerebro-spinal Meningitis.

Dr. L. Cohn, of the Posen Municipal Hospital, writing to the *Berliner Klinische Wochenschrift* gives a report on a series of cases of cerebro-spinal meningitis which he has examined some years after the disease in order to discover its consequences. He found that of 82 cases treated in the hospital in 1905, 1906, and 1907, 50 died; of the 32 other cases one died after four months from hydrocephalus, one after two years from another disease, whilst no information could be obtained of three cases. The remaining 27 included eight mild cases in which the fever was slight and of short duration, 15 cases of a more severe character in which the fever was of longer duration but intermittent, and four very severe cases in which the disease ran a long and complicated course. In the first category the cure was complete and nothing abnormal was found on examining the bodily and mental functions; the children were of good intelligence, made a good progress in school, and differed in no way from other children. Some of the second class were also quite healthy and pareses of the extremities and of the ocular muscles which were present at the time of the discharge from the hospital had disappeared. Other patients of that class, however, complained of headaches and of weakness of the arms and legs and three adults complained of weakness of memory. In one case an atrophy of the left extremity was obvious, in one there was atrophy of the genital organs with impotence, and one child of one and a half years of age showed symptoms of idiocy. Three of the third class had become completely deaf owing to an affection of the labyrinth. One of these cases died afterwards from diphtheria and on post-mortem examination the dura mater was found adherent to the base of the skull. Apart from this condition the brain was normal and no hydrocephalus was present. In one of the most severe cases in which the fever lasted for four weeks with the development of hydrocephalus all the symptoms had disappeared after six months and the child was quite normal and able to attend school. In two out of three cases examined for the serum reaction to the meningococcus agglutination was produced two years after the illness.

Jan. 19th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

A Medical Appeal.

FEW have suffered more from the Siculo-Calabrian cataclysm than those of the medical calling who at the time of the disaster were on the teaching staff of the University or engaged in practice, general or special. The "Consiglio Federale dei Sanitari del Regno" (a body corresponding in many ways to the British Medical Association) has just issued a circular in which the Presidents of the amalgamated societies are called upon to initiate subscriptions in their respective provinces and among the members of their respective associations in favour of their severely visited brethren of the south, and to forward the sums collected to the central authority ("Il Presidente del Consiglio") in Rome for immediate "distribution in aid." The circular

adds: "Besides assistance in money, which, if an urgent, is not perhaps the most important want, the President of the Federation proposes that help should be given in every way that can enable their dispossessed and temporarily unemployed brethren to resume professional work." All contributions in this sense (including medical and surgical equipment, books of reference, and such like) will be gratefully received and promptly consigned to the quarters already certified as in most immediate need of them.

The Exploitation of Disaster.

Human nature, it seems, can still produce the spectacle of man profiting by, if not actually enjoying, the misfortune of his fellow-man; and Italians, in at least one important direction, are being made to feel the truth of this unbrotherly trait. In a circular now before me the "Associazione Nazionale Italiana per il Movimento dei Forestieri" (National Association to Promote the Influx of Foreign Visitors) draws attention to the sinister use now being made by rival interests abroad of the recent seismic shocks that have thrilled the kingdom "from the Alps to Etna"—the said shocks being proclaimed in exaggerated phraseology as likely to recur at any moment and so making a sojourn in Italy not only "a chastened joy" but an actual "tempting of Providence" on the part of the visitor. Hotel keepers and the thousand and one occupations and *métiers* dependent on them are complaining bitterly of the loss of custom occasioned by these ill-inspired reports and, through the "Associazione" above referred to, are calling upon the press and other channels of opinion to expose their falsity and to reassure the outside world as to the safety—humanly speaking—with which a sojourn at the health resorts and other centres of attraction may, in the day now passing, be enjoyed. In truth, the seismic shocks, subsequent to the great cataclysm on the Siculo-Calabrian seaboard, were not more marked than those to which Italy is accustomed from time to time throughout the year. Residents, foreign as well as native, took but little notice of them and were not a little surprised to find them described in transalpine journals as fraught with any danger. "Nessun danno" (no damage done) was the report from every Italian province through which the tremor passed, and the incident would not have been remembered 24 hours after but for the "reverberation" it evoked in the press of interested quarters. Italy, profoundly touched by the more than fraternal sympathy and support which she has received from the outer, particularly the English-speaking, world, is doing her best to show her appreciation of it by redoubling her own efforts at self-succour and self-rehabilitation; and she feels it to be especially hard, with such problems to face and to surmount, that one of her chief assets (that of "the paying guest") should be minimised at a time when she can least spare any serious loss of income.

Jan. 18th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Professor Strümpell as Successor of the late Professor von Schrötter.

THE third clinic for internal diseases, which has been vacant since the death of Professor von Schrötter in May, 1908, has been offered to Geheimrat Professor von Strümpell, director of the Medical Clinic in Breslau. Strenuous efforts have been made by the authorities to induce him to remain in Breslau but the scope both for scientific research and for practice is so much larger in Vienna that Professor von Strümpell has at last consented to accept the appointment. He will take over the clinic in April and will begin his lectures here at the end of May.

The Statistics of Marriage and Infantile Mortality.

The fact that a census is taken in this country every five years allows the comparison of vital statistics at short intervals in the reports of the bureau of health. The following interesting facts are noted in the last yearly report of the bureau. The average marriage-rate for the years 1900–05 was 24 per 1000, but it fell to 21·70 per 1000 in 1908, perhaps on account of the depression in trade. The average age of the couples marrying has risen slightly, the present figure being 30 years for the bridegroom and 24 for the bride, as against 29½ and 23 respectively three years ago. The majority of weddings take place at the age of 30–35 for men and 21–26 for women, but it must be kept in mind that amongst the labouring classes earlier marriages are the rule, the bridegroom being on an average 24 and the bride only 19–21 years old. The months of February to April are the most favoured. The birth-rate has also gone down from 34 per 1000 in 1900–05 to 32 in 1908. Austria in this respect conforms to the general average of European countries. But still for the last 15 years the population has increased steadily at a rate of 1·75 per cent., which proves that the mortality must have diminished. Not only has the infant mortality fallen from 182 per 1000 in 1890 to 133 in 1905, but people seem to live longer if the returns of the insurance companies are trustworthy. The expectancy of life has improved, which is most likely due to improved sanitation and perhaps also to improved diagnosis and treatment. Rural districts do not compare favourably with urban places in the present report. Whilst the mean mortality for the Austrian Empire was 32 per 1000 in 1890 it is now less than 25 per 1000, and in Vienna it is only 15·7 to 16·5 per 1000. At the present day more children per 1000 reach their sixth birthday than 25 years ago reached their second birthday, which means a saving of at least 10 per cent. of children's lives. Nevertheless the average number of offspring for each marriage is a little lower, 3¼ against 3¾. Perhaps the smaller number of children accounts for their better nurture and accounts for the paradox that a diminished birth-rate causes an increase in the population.

"Orthostatic Albuminuria," so called.

At a recent meeting of the Gesellschaft der Aerzte, Dr. Jehle detailed his observations (which have been mentioned before in THE LANCET) dealing with the appearance of albumin in the urine of children having no renal disease. This physician asserts that Heubner's opinion that the vertical position causes albuminuria in persons predisposed to the affection can no longer be deemed correct. In his opinion not the vertical position but lordosis is responsible for the appearance of the albumin. He bases his assertions on the following facts among others. 1. Careful examination shows that all "orthostatic" patients have a marked lordosis of a pathological degree. This explains also why the albuminuria as a rule occurs in young people. When bodily growth is finished the lordosis, which is due to a lessened resistance of the vertebral column, is corrected spontaneously. 2. If an "orthostatic" patient is treated so that his lordosis disappears—e.g., by a surgical corset—the albuminuria disappears, even if the patient be allowed to stand erect for many hours. 3. If a patient of the orthostatic type stands erect or kneels down with his body upright, the albuminuria increases, as does his lordosis. 4. Even normal children may become albuminuric if they adopt an attitude of extreme lordosis for some length of time. These observations show that not a special predisposition of the kidneys but a special disposition to lordosis is necessary to induce albuminuria orthostatica. The action of the lordosis is explained as a simple mechanical interference with circulation; it causes a local stasis in the region of the lower vena cava, below the kidneys, and these organs react by the excretion of albumin. If a lordotic patient be placed so that the lower part of his body is higher than the upper part, no albuminuria supervenes, since the hydrodynamic conditions favour the efflux of blood from the vein. The variations of the albuminuria in the course of a day are easily explained by the postural variations of the hydrodynamic conditions. It is therefore important in all cases of lordosis in children to examine the urine and in all cases of albuminuria in children to search for lordosis. Therapeutic measures must in the first place be directed to strengthening the body, and in the second place to correcting the lordotic condition of the vertebral column by gymnastic exercises, a correcting corset, and attention to the diet and hygienic conditions. General treatment is also important. These observations were continued for more than a year in the children's hospital of Professor Escherich, and Dr. Jehle's conclusions rest on the examination of more than 300 children.

Appendicitis in Childhood.

Dr. Progulski at a meeting of the Lemberg Society of Medicine spoke on appendicitis in children, in whom the disease is very frequent but often escapes recognition. Some

writers believe that it occurs six times as often in children as in adults. Dr. Progulski saw a child, six weeks old, die from appendicitis, the diagnosis being verified by a post-mortem examination. The reason of the prevalence of this disease is to be found in the frequency of disorders of the digestive tract in infants and children and in the large quantity of lymphatic tissue in the appendix. Furthermore, this organ is relatively and absolutely larger in the child, sometimes being twice the length of the adult appendix. Foreign bodies and parasites play only a subordinate rôle in the etiology of infantile appendicitis; infectious diseases, especially influenza and tonsillitis, are, however, very important factors. The course of the disease differs from that seen in adults. More than 50 per cent. of all cases operated upon show the diffuse form, whilst in adults only from 20 to 30 per cent. are of this kind. The sudden onset and the rapid course of the disease are characteristic of the infantile form. Nothnagel explains these facts by the virulence of the infectious micro-organisms and the lower resistance of the child. The difficulty of obtaining a clinical history and in localising the pains, and sometimes the absence of pain altogether and of nausea may lead to a false diagnosis. An attack may pass off quickly, but a renewed attack may cause a perforation. Other cases appear quite insignificant but turn out to be very dangerous after 24 or 48 hours. So-called colics must be regarded cautiously. Prognosis is always grave, and neither temperature nor leucocytosis gives trustworthy indications of it. The cases are as a rule severe. Surgical interference should be advised as soon as the diagnosis has been made; the post-operative resistance of the infant is well known. The mortality of the disease has been brought down from 70 per cent. to 11 per cent.

Jan. 16th.

Obituary.

CHARLES PHILIP COPPINGER, M.D. & M.CH. (HON. CAUSÂ) R.U.I., F.R.C.S. IREL., M.R.C.P. IREL.,

SURGEON, MATER MISERICORDIÆ HOSPITAL, DUBLIN; EMERITUS PROFESSOR OF INSTITUTES OF MEDICINE, CATHOLIC UNIVERSITY, DUBLIN.

Dr. Coppinger, whose death we announced last week and who has long occupied one of the foremost positions in Irish surgery, was born in Dublin on August 11th, 1846, and had accordingly entered on the proverbially critical *annus climactericus*. He received his preliminary education in the celebrated Jesuit School at Clongowes Wood, passed through the Arts course at Trinity College, Dublin, and then through his professional curriculum at the Medical School of the Catholic University. His whole student career was a specially distinguished one. He received the Licence of the Royal College of Surgeons in Ireland in 1869 and the Fellowship of the same institution in 1881. In 1871 he obtained the diploma of Licentiate of the King and Queen's (now Royal) College of Physicians of Ireland, to the Membership of which he passed in 1881. His marked ability and devotion to professional work received early recognition and he was fortunate enough to receive an appointment on the surgical staff of the Mater Misericordiæ Hospital, the largest as well as youngest of the numerous institutions of its class in the Irish metropolis. He was fortunate in building up his surgical reputation at the time of the introduction into Ireland of the antiseptic reformation of surgery. His manual dexterity made him peculiarly skilful in the practice of surgery, while many other branches of medicine interested him. In this connexion we may recall a paper in THE LANCET in 1876, describing a New Method of Freezing Tissues for the Microscope (by means of the ether spray). He showed in the Section of Surgery of the Royal Academy of Medicine in Ireland on Feb. 24th, 1893, a patient (a man, aged 53 years) six weeks after operation; this was the first successful case of ligature of the innominate artery ever exhibited publicly. The aneurysm which led to the performance of that memorable operation involved the second and third stages of the right subclavian artery. The right common carotid was ligatured in two places and divided between, and the wound was kept filled during the whole time of the operation with mercuric chloride solution. It need hardly be added that this operation alone has secured for Dr. Coppinger's name an enduring place upon the roll of surgical fame.

Dr. Coppinger's rare surgical abilities and attainments procured him, so far back as 1885, the Royal University degrees of M.D. and M.Ch. (*honoris causâ*), and the various appointments of visiting surgeon to St. Patrick's Training College, Drumcondra; consulting surgeon to the National Maternity Hospital and to St. Michael's Hospital, Kingstown; and examiner in surgery to the Conjoint Board of the Royal Colleges of Physicians and Surgeons of Ireland. His attainments in physiology, histology, and microscopic technique led to his appointment as Emeritus professor of institutes of medicine in the Catholic University, to an examinership in physiology in the Royal University, and to the more substantial gift of a Fellowship in the same institution. His other published contributions to surgery, which were all of the highest quality, included papers on Hydatid Disease of Bone, New Method of Excising the Tongue, and Antiseptic Excision of the Knee-joint. It is indeed universally recognised in his native city that Dr. Coppinger has left few surgical compeers behind—in professional and collateral attainments and capabilities. And the fact is worth noting that the ancient family of Coppinger (of Co. Cork) has produced many distinguished sons in diverse walks of life. The subject of this notice remained himself unmarried, having always been whole-heartedly devoted to his profession and to all the branches of science and literature which threw light on its dark places.

JOHN EVAN SPICER, M.A., M.D., B.C. CANTAB.

MANY of our readers will have seen in the daily press an account of the tragic Alpine accident on Jan. 13th which resulted in the death of Dr. John Evan Spicer, medical registrar at the London Hospital. He had set out from Leuzerheide with his brother to ascend the Riz Danis on ski, and was carried away by an avalanche. His brother escaped with his life and was rescued by a search party hastily organised by the Rhätian section of the Swiss Alpine Club when news of the Spicer brothers' prolonged absence reached Chur. The remaining members of the Leuzerheide party wrote a letter to the *Times* of Jan. 19th highly praising the pluck and endurance of these Swiss sportsmen in spending 12 hours looking for the survivor on the mountain side in blinding fog and snow and resuming their labours at daybreak next morning on a dangerous piece of the mountain, which they searched until they found Dr. Spicer's body and brought it in 30 hours later with the aid of some peasants. Dr. Spicer was only 33 years of age and his untimely death has closed a career which promised much. He took his arts degree at Trinity College, Cambridge, and entered the London Hospital in 1900 after having passed his second M.B. examination. He qualified M.B., B.C. Cantab., in May, 1903, and proceeded to the M.D. in last March. He spent a long time in post-graduate residence at his hospital, holding in turn the appointments of senior dresser to out-patients, house surgeon to the special departments, receiving room officer, house physician, pathological assistant and resident accoucheur, whilst at the time of his death he was medical registrar, and had started in practice in Weymouth-street. He took as keen an interest in anatomy as in his other studies and contributed "Three Cases of Malformation of the Tracheo-Œsophageal Septum," with Dr. Arthur Keith, to the *Journal of Anatomy and Physiology*, and a paper on "Abnormal Development of the Œsophagus" to THE LANCET.

Dr. Spicer was a keen sportsman but he took chief delight in his work as organiser and captain of the Free Church camps for boys of the middle-classes, which he attended year after year. Sir J. W. Benn, in an old friend's appreciation of his life-work contributed to a contemporary, says of him in this respect that having secured an athletic domination over his boys he promptly turned it to the highest purposes. Without a touch of the goody-goody he would influence their lives in a way that but few parents could accomplish. He worked, moreover, ungrudgingly in personal service amongst the poor in the East End, following up in a thoroughly helpful manner cases of distress which presented themselves in his hospital practice. He was held by his many friends in such estimation as is reflected in Sir John Benn's words, "I have never met a sweeter or more unselfish character than that of the late John Spicer." To his parents

we offer our respectful sympathy in a loss which must, indeed, seem irreparable.

CHARLES AUGUSTUS WEST, M.D. ST. AND., M.R.C.S. ENG., L.S.A., J.P.

Dr. C. A. West of Bodmin died suddenly at Polgurn, the residence of his friend, Mr. H. Foster, on Jan. 11th. Dr. West had previously in the day acted as one of the adjudicating magistrates on the Trigg Bench and was then apparently in good health. Dr. West was 80 years of age and was well known and highly respected not only in the immediate neighbourhood of Bodmin but throughout the county of Cornwall. He had been for many years in practice in Bodmin, but had retired from active work for a considerable time. Dr. West was unmarried. He was a staunch Churchman and some years ago presented a new set of granite steps to the Bodmin parish church where he worshipped. He was a member of the East Cornwall Hospital committee and a generous supporter of the funds of that institution. Dr. West was a magistrate for the borough of Bodmin and also for the county of Cornwall. He was mayor of the now defunct borough of Camelford in 1853. Dr. West was also a Land and Income-tax Commissioner.

ROBERT BISSELL MOLE, L.R.C.P. EDIN., M.R.C.S. ENG.

Mr. R. B. Mole, who died at his residence, Callington, Cornwall, on Jan. 4th, aged 51 years, received his medical education at the Middlesex Hospital and qualified L.R.C.P. Edin. and M.R.C.S.Eng. in 1882. About 25 years ago he went to Callington with the late Dr. Kempthorne and eventually succeeded to his practice. Mr. Mole was very popular in Callington, his cheery manner made him many friends, and his skill as a medical practitioner will be remembered by many who have benefited by it. Mr. Mole was surgeon to the Callington Dispensary and also the district medical officer of the Callington district of the Liskeard union. Mr. Mole was formerly a member of the urban council and also "portreeve" of the town. He was a good sportsman and a keen fisherman. He leaves a widow and one married daughter.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Adolf Lostorfer, chief medical officer of the Commercial Medical Assurance Club, Vienna, whose name is known in connexion with certain corpuscles found in syphilis.—Dr. Richard A. F. Penrose, formerly professor of midwifery and gynæcology and also of children's diseases in the University of Pennsylvania, Philadelphia.—Dr. Henry Lamy, physician to the Paris hospitals.—Dr. S. R. Hermanides at 's-Gravenhage, Holland, who had been a general practitioner for 30 years at Geldermalsen. He was the author of an important work in French on "Parasyphilitic Affections" and had taken a great deal of interest in the question of the regulation of prostitution.—Dr. J. C. de Man, one of the oldest and most respected members of the profession in Holland, who was over 90 years of age. He wrote accounts of his experiences of the cholera epidemic which raged in Zeeland in 1850. His name is well known also as an enthusiastic worker in the fields of zoology and anthropology and 20 years ago he was awarded a gold medal for his researches in these subjects.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the Second Professional Examination in Anatomy and Physiology, held on Jan. 7th, 8th, 11th, and 12th, 82 candidates presented themselves, of whom 46 per cent. were approved and 54 per cent. were rejected. The following are the names of the successful candidates:—

Nosherwan Hormusji Bamboat, B.A., L.M. & S. Bombay, Grant Medical College, Bombay, and King's College; Richard Shaw de Courcy Bennett, Guy's Hospital; William Houston Boyd, Queen's College, Belfast; Robert Traill Brotchie, London Hospital; Stacey Archer Burn, St. Bartholomew's Hospital; Claude Gray Colyer, Charing Cross Hospital; Albert George William Compton, St. Mary's Hospital; John Hamilton Cumming, Cambridge University and King's College; Anandrai Keshavlal Dalal, L.M. & S. Bombay, Bombay University and King's College; Hilton Evans Bear Finlaison, St. Mary's Hospital; Frederick Thomas Fisher, Birmingham University; Frank Garratt, King's College and St. George's Hospital; Kenneth Banks Greenwood, London Hospital; John Eric Hepper, St. Bartholomew's Hospital; Arvor Jones, Liverpool University; Griffith Lewis Jones, University College, Cardiff; Bhagat Ram Khanna, London Hospital; Alfred Bertie Kramer, Edinburgh University and University College Hospital; William Morgan Langdon, Guy's Hospital; David McRae, London Hospital; Avenel Frederick Cleeve Martyn, St. Mary's Hospital; Leonard Milton, Guy's Hospital; William Frank Morgan, London Hospital; William Henry Parr, London Hospital; Walter Spencer Johannes Peiris, Ceylon Medical College and London Hospital; Cassius Affeleck Pereira, L.M. & S. Ceylon, Ceylon Medical College and London Hospital; Norman Pallister Pritchard, B.A. Cantab., Cambridge University and King's College; Thillustanum Sesha Soundara Rajan, Madras and King's College; John Magnus Redding, Charing Cross Hospital; Thomas Conrad Reeves, London Hospital; David Scott, London Hospital; Bager Zainulabedin Shah, Bombay University and St. Bartholomew's Hospital; Jeial Moochool Shah, Bombay University, St. Bartholomew's Hospital, and Manchester University; Philip Smith, Guy's Hospital; John Richard Cook Stephens, London Hospital; James Lennox Stewart, Guy's Hospital; Lionel Charles Watkins-Baker, University College, Bristol; and Arthur Agassiz Matthysz Werapermall, L.M. & S. Ceylon, Ceylon Medical College and King's College.

At the quarterly examination in Practical Pharmacy held on Jan. 14th the following gentlemen were approved:—

Horace Rhodes Leach Allott, Sheffield, University; John Vere Orlebar Andrew, London Hospital; Howard James Bates, Birmingham University; Ernest Frederic Westmore Buckell, University College Hospital; John Capell, St. Bartholomew's Hospital; Thomas Cock, Charing Cross Hospital; Malcolm Donaldson, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Robert Hankinson Williams Fisher, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Montague Graves, London Hospital and private study; Gilbert Henry Colling St. George Griffiths, University College, Bristol; Leopold Sylvester Morrice Habich, Cambridge University and St. Thomas's Hospital; Victor Patrick Hutchinson, Guy's Hospital; Fritz Kahlenberg, Otago University and Guy's Hospital; Mirza Mohammed Khan, University College Hospital; Harry Lee, B.A. Cantab., Cambridge University and Guy's Hospital; William Edgar Levinson, Guy's Hospital; Frederic George Lloyd, Guy's Hospital; Reginald Hawksworth Mawhood, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; John Cecil Wilson Methven, London Hospital and private study; Arthur Morgan, M.A. Cantab., Cambridge University and Charing Cross Hospital; Frederick Morres, Guy's Hospital; Archibald Bruce Pettigrew, Sheffield University and private study; Cyril Macdonald Plumptre, Guy's Hospital; Edward Douglas Whitehead Reid, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Laurence Melville Routh, Cambridge University and St. Thomas's Hospital; Charles Pearse Crodacott Sargent, St. Bartholomew's Hospital; Vere Edward Somerset, King's College Hospital; Harold William Tilling, Charing Cross Hospital; Richard Teodor Timberg, St. Thomas's Hospital; Maximilian Christian Wall, Guy's Hospital; Reginald Joseph Wooster, St. Mary's Hospital and private study; and John Francis Wilcox Wyer, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—A quarterly meeting of the Council was held on Jan. 14th, Mr. Henry Morris, the President, being in the chair. Mr. Walter G. Spencer was introduced, made an introduction in the terms of the oath prescribed by the Charter of 1800, and was admitted a member of the Court of Examiners. A vote of thanks was given to Mr. E. L. Gruning for his gift of five skulls from Cook Islands of pathological as well as of anthropological interest. A formula was submitted for a new section of the by-laws (Section xxvi.) to admit women to the examinations; it was referred to a committee for consideration and report. Mr. H. T. Butlin was re-appointed a member of the Court of Governors of the University of Birmingham. The President stated that the vacancy on the Board of Examiners in Dental Surgery occasioned by the retirement of Mr. G. H. Makins from the Court of Examiners would be filled up at the next meeting of the Council. The following diplomas were conferred upon the undermentioned gentlemen who have passed the necessary examinations and have now complied with the respective by-laws of the College:—

Diploma of Fellow.—Norman Cecil Rutherford, M.B., B.S. Edin., Edinburgh University and London Hospital.

Licence in Dental Surgery.—Thomas Percy Brown, Birmingham University; Robert Hope, D.M.D. Harvard, Harvard University and Guy's Hospital; Augustus Vallack Wallis, Charing Cross and Royal Dental Hospitals; and Joseph Jackson Wardill, Charing Cross and Royal Dental Hospitals

PRESENTATION.—On Jan. 8th, on board H.M.S. *Assistance*, a presentation took place before dinner, the recipient being Staff-Surgeon William Elmes Mathew who is leaving to take up an appointment on H.M.S. *Cochrane*. The gift took the form of a calabash pipe, silver mounted and suitably engraved. Lieutenant W. A. E. Critchley, on behalf of the wardroom officers, made the presentation.

THE CARDIFF INFIRMARY.—At a meeting of the committee of the Cardiff Infirmary held on Jan. 13th it was reported that the adverse balance against the institution was £19,383.

BRISTOL MEDICAL CHARITIES.—The employees of the W. D. and H. O. Wills branch of the Imperial Tobacco Company at Bedminster during 1908 collected £675 for the Bristol medical charities, and the employees of Messrs. E. and A. Robinson of Bristol during that year also collected £282 for the same purpose.

SOUTH DEVON AND EAST CORNWALL HOSPITAL.—The total amount collected for the Hospital Saturday Fund in Plymouth during 1908 was £604 and this amount has been forwarded to the treasurer of the South Devon and East Cornwall Hospital. The total amount collected for the hospital on Hospital Sunday, Oct. 25th, 1908, was £867.

MIDWIVES ACT COMMITTEE.—The second meeting of the Committee was held in the Board-room at the Privy Council Office on Wednesday, Jan. 20th. Mr. Almeric FitzRoy, C.V.O., the clerk of the Council, was in the chair, and all the members were present. Mr. G. W. Duncan, the secretary of the Central Midwives Board, attended and gave evidence on behalf of that Board.

THE BRITISH MEDICAL LIBRARY ASSOCIATION.—At a meeting of those interested in medical libraries held at Leeds on Jan. 9th it was decided unanimously to form an Association of Medical Libraries and a provisional committee was appointed to draw up the constitution and rules. Professor W. Osler (Oxford) was invited to become the first president and Dr. I. Walker Hall (Bristol) and Mr. Cuthbert E. A. Clayton (librarian, Manchester Medical Society) were asked to undertake the duties of temporary secretaries. The following are some of the objects of the association:—

1. Intercourse of those interested in medical library work and the discussion of matters associated with the fostering and care of libraries.
2. Diffusion of information as to the branches of medical literature specially catered for at different centres, and as to the value of the various books and new periodicals which are issued from time to time.
3. The promotion of measures whereby a larger number of practitioners in each centre may be induced to utilise the library facilities of each district.
4. The consideration of matters connected with the present rapid increase of periodicals, publications of books, &c.
5. The opening up of better chances of advancement for library assistants. By such means there would be an inducement to parents to put their sons to such an occupation and the librarians would be able to have better material for training.
6. The exchange of duplicate books and periodicals.

When the association is in working order it is hoped that a certain number of the libraries interested will join together to form a circle for the loan of their research and other literature.

METROPOLITAN HOSPITAL SUNDAY FUND.—A council meeting of the Metropolitan Hospital Sunday Fund was held at the Mansion House under the presidency of the Lord Mayor on Jan. 14th. The distribution committee was re-elected and Mr. A. Pearce Gould and the Rev. E. H. Pearce were elected members of the general purposes committee, to fill two vacancies caused by the deaths of Dr. J. G. Glover and Canon Fleming. The finance committee, the honorary secretaries (Sir R. B. Martin and Mr. J. S. Gilliat), and the honorary auditors (Messrs. W. H. Pannell and Co.) were reappointed. The secretary read a letter which he had received from the solicitor to the Fund in regard to the procedure at the annual meeting of constituents. In that letter the opinion was expressed that, broadly speaking, upon the motion to receive the report and accounts it was competent for any one of the constituents of the Fund to move its rejection and on that amendment to ventilate any grievance which he might consider needed discussion, but in the absence of specific notice of the intention to propose a definite motion he doubted very much whether a constituent would be in order in proposing any motion which, if carried, might have the effect of changing the character of the Fund from the form in which it was administered. He suggested that Mr. Lewis's letter and notice of motion should be brought before the council which, if it thought fit, could put the question on the agenda and it would thus become regular. Sir John Bell thought that it would be just as well if the general purposes committee asked Mr. Lewis to come before it and state his case. The matter was referred to the general purposes committee and the proceedings terminated. It will be remembered that at the last annual meeting of the constituents of the Fund the Rev. L. S. Lewis wished to move an amendment to the adoption of the report with reference to the withholding of a grant from the National Anti-Vivisection Hospital, but was prevented from doing so by the Lord Mayor's ruling.

HAMPSTEAD GENERAL HOSPITAL.—This hospital, with which is associated the North-West London Hospital, will hold its festival dinner at the Trocadéro Restaurant, Shaftesbury-avenue, London, W., on Feb. 16th, at 7 P.M. Mr. Samuel Figgis will occupy the chair.

LONDON HOSPITAL MEDICAL COLLEGE.—A lecture will be delivered in the clinical theatre on Jan. 26th at 3 P.M. by Sir Frederick Treves, Bart., Emeritus Professor of Clinical Surgery, on Radium in Surgery. All students of the University of London are free to attend. Members of the medical profession will be admitted on presentation of their visiting cards.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on Jan. 13th, Dr. G. F. Blandford, the President, being in the chair. Fifteen directors were present. The deaths of three members were reported, among them being that of Sir Henry Pitman, a vice-president of the society. A vote of condolence with Lady Pitman was passed. Three new members were elected. A sum of £528 had been distributed among the annuitants of the charity as a Christmas present, each widow receiving £10, each orphan £3, and each orphan on the Copeland Fund £5. Since the last court one of the annuitants of the charity had died; her husband paid in subscriptions £33 10s. and died in 1855, and since that date his widow received in grants from the society the sum of £3300. This is a most striking instance of the advantages of joining the society. The sum of £1242 10s. was voted for the half-yearly grants to the widows and orphans at present on the books of the society. Relief is only granted to the widows and orphans of deceased members, and during the past three months five letters had been received from widows of medical men left penniless asking for relief, but this had to be refused as their husbands had not been members of the society. Membership is open to any registered practitioner who at the time of his election is residing within a 20-mile radius of Charing Cross. Full particulars and application forms for membership may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W. The invested funds of the society now exceed £100,000.

UNIVERSITY COLLEGE (UNIVERSITY OF LONDON).—A course of eight lectures on the Chemistry of Foods will be delivered by Dr. S. B. Schryver in the physiological theatre on Fridays, at 5 P.M., commencing to-day, Jan. 22nd. The syllabus of the course is as follows:—The general chemical composition of foods. The chief factors influencing the value of substances as food-stuffs. The caloric value of foods and the method of determination and calculation; the method of Irving Fisher. The chemistry of the chief constituents; the fats, the carbohydrates, and the proteins. The influence of chemical constitution on the value of substances as food-stuffs; the specific groups of the proteins and the investigations of Abderhalden, Hopkins, and others. The relative value of food-stuffs when raw, cooked, predigested; the work of Loewi, Henriques, Abderhalden, and others. The chemistry of the chief foods—cereals, milk, meat, vegetables, and food adjuncts. The purin content of foods. Recent views on the constitution of diets; the nitrogen minimum; the work of Siven, Folin, Chittenden, and others. Food preservation and preservatives.—A course of four lectures on Practical Methods Employed in Physiological Chemistry will be delivered by Mr. R. H. Aders Plimmer, D.Sc., in the Physiological Laboratory, on Wednesdays, at 5 P.M., commencing on Feb. 3rd. The synopsis of the course includes: Some New Methods of Estimating Carbohydrates; a New Process of Investigating the Action of Diastase; Methods of Investigating the Action of Proteoclastic Enzymes. The lectures in both the

above courses are open, without fee, to all students of the University of London, also to qualified medical men and to such other persons as are specially admitted.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board, under the provisions of Rule D 5, was held at Caxton House, Westminster, on Jan. 14th, Dr. F. H. Champneys being in the chair. The following charges alleged against Maria Booth were considered: That having been engaged to attend as a midwife at a confinement and being actually in attendance on July 20th, 1908, and on July 22nd, the patient suffering from hæmorrhage, she (the midwife) did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, as required by Rules F 18 and 19. That she did not wash the patient at any time. That she did not take the patient's temperature at any time. That a registered medical practitioner having been sent for on July 25th she did not await his arrival or faithfully carry out his instructions as required by Rule E 6. The Board censured Maria Booth and directed that a report of her conduct should be furnished by the local supervising authority in three months' time. The following charges alleged against Catherine Walls were considered: That on August 30th, 1908, she was drunk when on duty at 23, Trinity-place, Windsor; that on Sept. 15th, 1908, she was drunk when on duty proceeding to attend a patient at Bracknell; that she was habitually given to drinking to excess. The Board directed the name of Catherine Walls to be struck off the roll of midwives.

HOUSING IN MONMOUTHSHIRE.—One of the most pressing needs in the colliery valleys of Monmouthshire is improved housing conditions. Examples of what it is to be hoped are extreme cases are constantly being reported but their existence does not appear to stimulate the local sanitary authorities to much greater activity in the direction of putting into force the powers conferred on them by the Housing Acts. In one house in Abersychan where there was only one bedroom there were found by the sanitary inspector to be 14 persons living, and a two-roomed cottage in Tredegar was in the occupation of a man, his wife, and seven children, all of whom slept in a small bedroom. In this district a proportion of the houses are of the back-to-back type and in other respects are in a most insanitary state. It is proposed by the Bedwellty urban district council to erect 40 houses at a cost of £145 each and the Ebbw Vale urban council is considering offers of land suitable for building purposes. The Duke of Beaufort has offered to lease five and a half acres for 99 years at an annual rental of £25 and the Ebbw Vale Colliery Company has expressed its willingness to lease for the same period various building sites in proximity to their collieries. The rental asked by the company is at the rate of 1*d.* per square yard with a minimum of 20*s.* per house. Unfortunately, building on some of the sites offered would be expensive owing to the large amount of excavation required in order to secure sufficient space around the houses. With the prospect in the district of continuous employment and steady wages there ought not to be much difficulty in securing adequate accommodation for the colliers and their families.

BOOKS, ETC., RECEIVED.

AMERICAN PROCTOLOGIC SOCIETY (Secretary-treasurer, Dr. Lewis H. Adler, Jr., Philadelphia, Pa.).
Transactions of the Tenth Annual Meeting of the American Proctologic Society held at Chicago, Ill., June 1–2, 1908.

ARNOLD, EDWARD, London.
The Body at Work. By Alex Hill, M.A., M.D., F.R.C.S. Price 16*s.* net.

BAILLIÈRE, J. B., ET FILS, Paris.
Les Attentats aux Mœurs. Par P. Brouardel. Préface du Professeur Thoinot. Price Fr.5.

BAILLIÈRE, TINDALL AND COX, London.
Aids to Obstetrics. By Samual Nall, B.A., M.B. Cantab., M.R.C.P. Lond. Revised by C. J. Nepean Longridge, M.D. Vict., F.R.C.S. Eng., M.R.C.P. Lond. Seventh edition. Price, cloth, 2*s.* 6*d.* net. Diathesis and Ocular Diseases. By A. Maitland Ramsay, M.D. Price 3*s.* 6*d.* net.
Practical Guide to the Diseases of the Throat, Nose, and Ear. By William Lamb, M.D., C.M. Edin., M.R.C.P. Lond. Second edition. Price 7*s.* 6*d.* net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.
The Etiology and Nature of Cancerous and Other Growths. By W. T. Gibson, A.R.C.S. Price 6*s.* net.

BLACKIE AND SON, LIMITED, London, Glasgow, Dublin, and Bombay.
Our Teeth, How Built up, How Destroyed, How Preserved. Described and illustrated by R. Denison Pedley, F.R.C.S. Ed., L.D.S. Eng.; and Frank Harrison, M.R.C.S. Eng., L.D.S. Ed. Price 5*s.* net.

BOMBAY NATURAL HISTORY SOCIETY, Bombay.
The Poisonous Terrestrial Snakes of our British Indian Dominions and How to Recognise Them. By Major F. Wall, I.M.S., C.M.Z.S. Second edition. Price 2 rupees.

CHATTO AND WINDUS, London.
Herbert Fry's Royal Guide to the London Charities. Edited by John Lane. 1909. Price 1*s.* 6*d.*

DOIN, OCTAVE, ET FILS, Paris.
Traité des Maladies des Voies Urinaires. Par E. Desnos. Price Fr.20.

DORNAN, WILLIAM J., Philadelphia.
Transactions of the American Surgical Association. Vol. 26. Edited by Richard H. Harte, M.D.

FISCHER, GUSTAV, Jena.
Zeitschrift für Immunitätsforschung und Experimentelle Therapie I. Teil: Originale. Erster Band. Erstes Heft. Price not stated.
Lehrbuch der Chirurgie. Herausgegeben von Prof. Wullstein (Halle A.S.) und Prof. Wilms (Basel). Zweiter Band. Erste Lieferung. Price M.5.
Lehrbuch der Augenheilkunde. Herausgegeben von Dr. Theodor Axenfeld, Professor der Augenheilkunde in Freiburg i.Br. Price M. 14.; geb., M.15.

FROWDE, HENRY, Oxford University Press, London, New York, and Toronto.
North and South. By Elizabeth C. Gaskell. With an Introduction by Clement Shorter. Price 1*s.* net. (The World's Classics.)

GOVERNMENT MONOTYPE PRESS, Simla.
Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 35. New series. Blackwater Fever. By Captain S. R. Christophers, M.B., I.M.S., and Dr. C. A. Bentley. Price not stated.

HÖLDER, ALFRED, Wien und Leipzig.
Gynäkologie. Von Professor Dr. Sigmund Gottschalk in Berlin. Price M.6.

KEYES, THOMAS BASSETT, Chicago.
The Cure of Consumption with Subcutaneous Injections of Oils. By Thomas Bassett Keyes, M.D., of Chicago. Price 50 cents.

KING, SELL, AND OLDING, LIMITED, London.
The Science Year Book. 1909. Edited by Major B. F. S. Baden. Powell. Price 5*s.* net.

KNICKERBOCKER PRESS (THE), New York.
Sixth International Dermatological Congress. Held at the New York Academy of Medicine, Sept. 9th to 14th, 1907. Official Transactions. Edited by John A. Fordyce, M.D. Two volumes.

LEHMANN, J. F., München.
Vorlesungen über die Mechanische und Psychische Behandlung der Tuberkulösen besonders in Heilstätten. Von Dr. Georg Liebe. Price M.5.

LEWIS, H. K., London.
Diseases of the Nervous System. By Alfred Gordon, A.M., M.D (Paris). Price 12*s.* 6*d.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BADGEROW, GEORGE W., M.B., M.R.C.S., has been appointed Assistant Surgeon to the Hospital for Diseases of the Throat, Golden-square, W.

CULLEN, RICHARD BLAIR, L.R.C.P. & S. Irel., has been reappointed Medical Officer of Health of the Borough of Tiverton, Devon.

DE KOCK, J. G., M.B., Ch.B. Edin., has been appointed House Surgeon at the Royal Eye Hospital, Southwark, S.E.

GLOVER, B. T. J., M.B., Ch.B. Liverp., has been appointed School Medical Officer to the Liverpool Education Committee.

GRIFFITH, A. E., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Lydbrook District of the county of Gloucester.

HAWKSLEY, W. L., M.B., Ch.B., D.P.H. Liverp., has been appointed School Medical Officer to the Liverpool Education Committee.

MAYER, CLIFFORD A. L., M.D., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Medical Officer at the French Hospital.

SOPER, GERALD MORGAN, M.R.C.S., L.R.C.P. Lond., has been appointed *pro tem.* Public Vaccinator for the Kingswear District of the Totnes (Devon) Union.

TROTTER, G. CLARK, M.D. Edin., D.P.H. Aberd., has been appointed Medical Officer of Health of the Burgh of Paisley.

VERLING-BROWN, C. R., M.D. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Sutton District of the county of Surrey.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 and fees.

BLACKBURN EPILEPTIC COLONY, Langho.—Medical Superintendent. Salary £250 per annum, with residence, washing, &c.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried. Salary at rate of £80 per annum, with board, lodging, and washing.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Pathologist. Salary £350 per annum.

BRISTOL GENERAL HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—Two House Physicians, One House Surgeon, One Obstetric and Ophthalmic House Surgeon, and One Throat and Nose and Ear House Surgeon. Salary of two former £100 per annum, and of two latter £75 per annum. Also One Casualty Officer. Salary £50 per annum. With apartments, board, and laundry in each case.

BROOKWOOD, SURREY COUNTY LUNATIC ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and laundry.

BUXTON, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CAMBRIDGESHIRE, &C., ASYLUM, Fulbourn.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

CANCER HOSPITAL, Fulham-road, London, S.W.—Three Clinical Assistants.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Pathologist. Salary £40 per annum. Also Clinical Assistant for three months.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, attendance, and washing.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150, with board, laundry, and attendance.

EDINBURGH, UNIVERSITY OF.—Examiners in Forensic Medicine.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Surgeon. Salary at rate of £60 per annum, with board, residence, and washing.

GORDON HOSPITAL FOR FISTULA, &C., Vauxhall Bridge-road, S.W.—Resident House Surgeon.

HAMPSTEAD GENERAL HOSPITAL.—Honorary Radiographer.

KENSINGTON GENERAL HOSPITAL, Earl's Court, S.W.—Assistant Surgeon. Also Ophthalmic Surgeon.

LONDON THROAT HOSPITAL.—Assistant Surgeon.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

MERTHYR TYDFIL, BOROUGH OF, EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £250.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with board, attendance, and laundry.

NATIONAL HOSPITAL FOR THE RELIEF AND CURE OF THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Assistant Physician.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, and attendance.

NOTTS CONSUMPTION SANATORIUM, Ratcher Hill, near Mansfield.—Resident Medical Officer (female). Salary £100.

PAISLEY INFECTIOUS DISEASES HOSPITAL.—Assistant Medical Officer. Salary £100 per annum, with board, washing, and attendance.

ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £110 per annum, with rooms, commons, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square.—Honorary Obstetric Physician.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, lodging, and washing.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, &C., 73, Welbeck-street, W.—Resident House Physician for six months. Salary at rate of £100 per annum, with residence, board, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Ophthalmic Surgeon. Also Pathologist. Salary £200 per annum. Also Assistant Anæsthetist.

Births, Marriages, and Deaths.

MARRIAGES

THOMSON WALKER—NAIRN.—On Jan. 19th, at St. Serf's Church, Dysart, Fife, N.B., by the Rev. James Laing, assisted by the Rev. W. D. Beattie, J. W. Thomson Walker, M.B., F.R.C.S., of London, second son of the late John H. Walker, J.P., of Westwood, Newport, Fife, to Isabella, fifth daughter of Sir Michael B. Nairn, Bart., of Rankeilour, Fife, and Dysart House, Fife.

DEATHS.

COPLAND.—On Jan. 16th, at Sherness, John Brightman Copland, M.R.C.S., L.R.C.P. Lond., aged 29 years.

NOBLE.—On Jan. 16th, at Kennington Park-road, S.E., James Black Noble, M.R.C.S., L.R.C.P., aged 50 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

CONSULTATIONS WITH HOMŒOPATHS: WHAT ARE WE TO DO?

To the Editor of THE LANCET.

SIR,—Dr. Jukes de Styrap in his "Code of Medical Ethics," p. 57, says: "For a legitimate or orthodox practitioner to meet a professor of homœopathy in consultation is a dishonest and degrading act," and in the text following and in a footnote he goes on to explain the situation fully. There is one exception made, and that is in case of "acute perilous disease." When a homœopath is attending then an orthodox practitioner may meet the homœopath "provided it be distinctly understood and honorably assented to by all concerned that the immediate future should be in strict accord with the principles of legitimate orthodox medicine and honestly carried out by responsible trustworthy nurses, selected, if need be, by the consultant." Some years ago I was in practice in a country town in which was a family of homœopaths, consisting of father, mother, and grown-up sons and daughters. One of the sons practised homœopathy gratuitously, to a slight extent among the poorer classes, but if a case became serious he generally sent them to me to be treated at his expense. The family when ill sometimes called me in to attend and sometimes sent to the county town (about 16 miles away) for a qualified homœopathic practitioner to come over to see them. On one occasion—I had been in daily attendance upon the father for some time—I received a letter from one of the daughters, saying that "Dr. ——, the homœopathic medical man from the county town, would be there at 12 noon, and would I meet and consult with him in the case?" I replied by letter that "it was against our rules of professional etiquette to meet a homœopathic in consultation: I was sorry I could not do so, but that I was quite willing to give up the case to him." She wrote again, saying that "the family did not at all wish me to give up the case, and would I come in and meet the homœopathic practitioner, who was a great friend of theirs, as a friend." To this I assented, met him and had a chat, but we did not mention the case. In conversation a day or two afterwards the daughter said she was sorry I could not meet Dr. —— in consultation, and she did not understand it, as Mr ——, one of the surgeons on the staff of the county hospital, frequently met Dr. —— I remarked that if he did he was acting wrongly. I met Mr. —— some time afterwards and put the case before him and he said he certainly had met Dr. —— in surgical cases, but upon consideration he thought he had acted wrongly. I said I considered he had no right to meet him regularly in surgical cases, and if orthodox practitioners met homœopaths in surgical cases I could not see why they should not in medical cases. To this he agreed and there the matter ended for the time. The father and mother of the family have been dead some years. I attended both of them in their last illnesses. In the autumn of last year my wife and I were on a short visit to my old home. The homœopathic gentleman was seriously ill and being attended by my successor. One day my wife met the sister of the invalid, asked how he was, and hoped they liked Dr. —— (my successor). The reply was they liked him very much and he had none of that stupid nonsense about not meeting homœopaths in consultation; he had done it several times, and, moreover, all the doctors in —— (county town) met him. (I do not believe this.)

My successor was urgently called to see the patient and found that the homœopath was in attendance, but as he lived 16 miles away and the case was a serious one, requiring frequent attendance, and the friends wished him (my successor) to watch over the case in conjunction with their own (homœopathic) doctor, he did so for a time as it was absolutely necessary for the patient to be seen at night. (I think he acted wrongly in this.) Finding, however, that the homœopath prescribed medicines without his knowledge or sanction he immediately wrote withdrawing from the case. Urgent symptoms again supervened, however, and he felt himself obliged to meet again the homœopath in consultation, when it was decided to call in a London surgeon (on the staff of one of the hospitals). An operation was performed and by the decision of the friends the after-treatment was left entirely in my successor's hands, and henceforth he carried on the case himself until the patient recovered, the homœopath coming down when he wished to see the patient but taking no part in the treatment. The London surgeon advised my successor to work with Dr. —— saying that he never refused to meet a homœopath except in the case of a quack, when he would have nothing to do with him. Now the question arises, Why should surgeons make a law unto themselves and violate the ethics of the medical profession as laid down in a standard work? And if they can meet homœopaths in consultation, surely general practitioners who are surgeons may do likewise, and if they do why may not physicians and surgeons, and if they do why not pure physicians? My own opinion is that surgeons have no right to take up a case (except in "acute perilous disease") until the homœopath has given up the case absolutely.

I hope some of the leaders of the profession (especially staff-surgeons) will discuss the question.

I am, Sir, yours faithfully,

Jan. 17th, 1909. G. P.

THE TREATMENT OF TABES DORSALIS BY DAMIANA.

Mr. M. J. Kehoe, L.R.C.P., writes enthusiastically from Buenos Ayres on the value of the liquid extract of damiana, combined with inunctions of mercury, in the treatment of the gastric and "lightning" pains of tabes. He recommends small doses of the drug (about two drachms twice a day) and says that larger doses may cause conjunctival and gastro-intestinal irritation. Mr. Kehoe regards tabes as a pure manifestation of syphilis and insists on the necessity of a concurrent mercurial course, but he is convinced that damiana has a specific effect in relieving the intolerable pains of the disease.

OPHTHALMOLOGICAL OPTICS.

To the Editor of THE LANCET.

SIR,—Will any of your readers kindly inform me how to describe an ellipsoid of revolution. Also if the corneal ellipse in the human eye passes through the centre of rotation and at what distance behind the anterior surface of the cornea that centre would lie in an eye measuring 22·8 from the cornea to the second principal focus.

I am, Sir, yours faithfully,

Jan. 19th, 1909. B. F.

BOVRIL PICTURES.

WE have received from Bovril, Limited, a signed artist's proof of their latest bonus picture, which is an excellent reproduction of an oil painting by A. A. Dixon, entitled "The Sleeping Minstrel," the original of which was exhibited in the Royal Academy in 1908. The figures depicted are a man and woman in mediæval costume passing through a garden apparently unaware of the minstrel reposing at the base of a fountain, and the man takes advantage of this to place a ring upon the finger of the maiden. Messrs. C. A. Faulkner and Co., who are responsible for the gravure, are to be congratulated upon the excellence of the reproduction. We have also received two other reproductions of pictures by Fred. Morgan and A. J. Elsley, entitled respectively "My Boy" and "The Huntsman's Pet."

THE CLIMATE OF PANAMA.

To the Editor of THE LANCET.

SIR,—I shall be obliged if any of your readers can give me some information about the climate and health risks of Panama and particularly of Colon. Thanking you in anticipation,

I am, Sir, yours faithfully,

Jan. 14th, 1909. IOTA.

Inquirer.—We cannot say if the book is in either of the libraries mentioned, but if our correspondent were either to write to the librarians or to look at the catalogues himself (which he has a right to do) he would ascertain.

Vivat.—Our correspondent is suffering from a well-known and by no means uncommon complaint. He should consult his medical man.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—J. Lewin Payne, H. W. Trewby, D. P. Gabell): at 8 P.M.

Annual General Meeting.—Election of Officers.

Communication:

Mr. Philip Turner: The Treatment of a Denture Swallowed and Impacted in the Œsophagus by means of Kilian's Œsophageal Tubes.

Paper:

Mr. Charles H. Clark: Radiographs of the Teeth and Associated Parts (illustrated by the epidiascope).

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—Herbert P. Hawkins, A. M. Gossage): at 5.30 P.M.

Discussion:

On Ulcerative Colitis, to be opened by Sir William Allchin, M.D.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Dr. C. Berkeley: Wertheim's Panhysterectomy for Carcinoma.—Mr. W. F. Brook (Swansea): A Preliminary Note on the Relationship of Delayed Union in Fractures to Deficiency of Calcium Salts in the Blood.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

WEDNESDAY.—8 P.M., Dr. J. Cantlie: The Part played by Vermin in the Spread of Disease.

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Discussion on the Report of the Royal Commission on the Care and Control of the Feeble-minded (opened by Dr. G. Shuttleworth, Mrs. E. M. Burgwin, and Mrs. Dickenson Berry, M.D.).

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Card Cases. 8.30 P.M., Mr. W. B. Harman: (1) Four Generations of Lamellar Cataract; (2) An Unusually Rapid Development of Complete Cataract in a Boy.—Mr. D. J. Wood: A Case of Retinal Exudation with Extreme Distension of Vessels, and perhaps Arterio-venous Anastomosis.—Mr. A. S. Percival: (1) Note on the Colours of Benham's Top; (2) Note on Some Rhythmic Oscillations of the Pupil.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. Whitfield: Clinique (Skin). 5.15 P.M., Lecture:—Some Surgical Considerations.

TUESDAY.—4 P.M., Dr. W. Carr: Clinique (Medical). 5.15 P.M., Lecture:—Mr. L. Paton: Optic Neuritis.

WEDNESDAY.—4 P.M., Mr. J. Cantlie: Clinique (Surgical). 5.15 P.M., Lecture:—Some Medical Considerations.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. W. S. A. Griffith: Rupture of Perineum.

FRIDAY.—4 P.M., Mr. S. Stephenson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Clinical Lecture:—Dr. Davis: Diseases of Throat, Nose, and Ear.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Ankylostomiasis.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. R. W. Lloyd: Anæsthetics.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture: Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Diseases.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Dr. G. N. Meachen: The Dermatological Inspection of School Children.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Special Demonstration:—Dr. T. R. Whipham: Cases of Children's Diseases.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4 P.M., Special Lecture:—Mr. Lawrence: Hay Fever.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. Carless: The Operative Treatment of Gallstones.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture: Dr. R. Bradford.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—Clinical Lecture:—Dr. G. Stewart: The Significance of Focal Fits.

FRIDAY.—Clinical Lecture:—Dr. Tooth.

UNIVERSITY OF LONDON, Theatre of the Royal College of Surgeons, Lincoln's Inn Fields, W.C.

FRIDAY.—5 P.M., Dr. A. Keith: The Anatomy and Zoological Relationships of the Anthropoid Apes:—Lecture III.: The Distribution, Anatomy, and Relationship of the Chimpanzee and Gorilla.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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THE INDEX TO THE LANCET.

The Index and Title-page to Vol. II. of 1908, which was completed with the issue of Dec. 26th, were given in THE LANCET of Jan. 2nd, 1909.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 21st, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 15	29·30	W.	0·14	66	46	42	39	42	Cloudy
,, 16	29·67	W.	0·08	70	48	39	36	39	Cloudy
,, 17	30·15	W.	...	71	50	37	39	41	Cloudy
,, 18	30·00	W.	...	65	49	41	45	47	Cloudy
,, 19	30·00	N.W.	...	49	45	43	42	43	Raining
,, 20	30·40	N.W.	0·03	55	41	35	36	36	Cloudy
,, 21	30·50	N.E.	...	51	40	33	35	35	Overcast

During the week marked copies of the following newspapers have been received:—*Rhyl Journal, Lincoln Leader, Birmingham Post, Daily Express, Morning Leader, Scientific American, Glasgow Herald, Edinburgh Evening Dispatch, Morning Advertiser, Daily Telegraph, Liverpool Courier, Dublin Times, Belfast Whig, Glasgow Citizen, Literary Digest (New York), &c.*

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